ADMINISTRATION REPORT

OF THE

FOREST DEPARTMENT

OF THE

MADRAS PRESIDENCY

FOR THE

TWELVE MONTHS ENDING 30TH JUNE 1918

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ANNUAL ADMINISTRATION REPORT OF THE FOREST DEPARTMENT

FOR THE

FOREST YEAR ENDING 30TH JUNE 1918

அமரர் சி. அருணாசல முதலியார்
அவர்களின் நினைவாக அன்பளிப்பு.
அளிப்பவர்:
திருமதி சிட. மணா அருணாசலம்
(1-32) சீகாழி.

CHAPTER I.—CONSTITUTION OF STATE FORESTS.

1. Alteration in area.

Northern Circle.

Reserved forests.—The alterations are :—About 66 square miles were transferred from reserved lands, 441 acres excluded by recomputation and about fourteen square miles disafforested. The net area in the Circle at the close of the year was 4,658 square miles.

Reserved lands.—About 66 square miles were transferred to reserved forests ; 31 acres to the Salt Department and 219 acres excluded at Settlement. The area at the close of the year was 421 square miles of which two are leased forests and about one square mile has been notified under section 26 of the Forest Act and will not be constituted reserved forest.

Reservation of forests in Rampa in the Gōdāvari Agency.—This question has practically stood still since 1915–16. Twenty-one blocks were originally proposed for reservation. The District Forest Officer inspected and perambulated seventeen blocks in 1914–15 and 1915–16, and in 1917–18 two blocks and a portion of a third. The different stages at which these blocks stood were :—Four blocks were surveyed and outline maps prepared for them by the Madras Survey Department : six blocks were surveyed and field books prepared for five of them ; the field books were defective and errors had to be rectified by resurvey and the sixth block also had to be resurveyed : the boundaries of four more blocks were cleared and demarcated pending survey : five blocks had to be demarcated and surveyed : two more blocks had to be inspected, perambulated and demarcated before survey. The services of a special establishment from the Madras Survey Department have been applied for to carry on the survey.

Central Circle.

2. *Reserved forest.*—The area at the end of the year was 5,722 square miles, against 5,729 at the beginning as detailed in Form 65. Three hundred and eighty-three acres were transferred from reserved lands, 323 acres added by resurvey. Forty-three thousand seven hundred and six acres were transferred from *North Cuddapah* to *West Cuddapah* owing to a revision of the boundary. Three thousand six hundred and thirty-two acres were disafforested and 1,655 acres were found deficit by resurvey.

Reserved lands.—The area increased from 68 to 73 square miles. The details are given in Form 65.

Southern Circle.

3. *Reserved forests.*—Two thousand six hundred and eighty-one acres were added by transfer from reserved lands and 12,365 acres disafforested.

Reserved lands.—Four thousand eight hundred and twenty-six acres were notified as reserved lands of which 949 acres comprising Mulakad block are proposed to be handed over to the Tuticorin Port Authorities for management after reservation, the object of this reservation being to prevent the silting up of the port. The total area of reserved forests and reserved lands at the close of the year was 4,393 square miles against 4,406 square miles of the previous year.

Western Circle.

4. *Reserved forests.*—The area of reserved forests at the end of the year remained the same as that at the commencement, viz., 4,133 square miles, though there were minor alterations as follows :—Five small areas covering 121 acres were transferred from reserved lands and four aggregating 410 acres were disafforested ; four acres in *South Malabar* were transferred to the Fisheries Department.

Reserved lands.—Four hundred and twenty acres consisting of poramboke and unreserved lands were added and 121 acres were transferred, to reserved forests. The area at the close of the year was 106 square miles, of which 96 are leased forests in *South Malabar* and the *Nilgiris* and 4·5 " Todapatta lands " in the latter division.

2. FOREST SETTLEMENT.

Northern Circle.

5. Three blocks covering 418 square miles (two in *Upper* and one in the *Lower Gōdāvari*) were pending settlement. The two blocks in *Gōdāvari Upper* were once settled, but the settlement was found faulty. The resettlement of one of them was completed at the close of the year and the submission of the final notification was pending expiry of appeal time on the Forest Settlement Officer's decisions. The Coringa Extension in *Gōdāvari Lower* had to be surveyed before the preparation of the notification under Section 16 of the Forest Act. This has now been done. The question of supply of fuel to the Port Conservancy Board from the Hope Island which forms part of the above extension was pending orders of the Government.

Central Circle.

6. Three blocks in *Anantapur*, one in *West Cuddapah* and five in *Nellore* were finally settled, 22 blocks are pending final settlement and 17 are undergoing settlement as detailed in Form 66. The total cost of settlement is Rs. 7,638.

Southern Circle.

7. Settlement is complete in all districts except North and South Salem.

North Salem.—Final reports for three out of the four blocks comprising Udaidurgam reserve which were forwarded to the Board have been returned for further particulars and are pending with the Forest Settlement Officer.

South Salem.—The appeal on settlement of the Jarugumalai block is pending with the Collector and the appeal filed in the District Court by the claimants of Arana and Thirthagiri blocks is still pending. The settlement of the Pallipatti extension block is pending with the Revenue Divisional Officer, Dharmapuri.

Western Circle.

8. Eleven blocks of 3·75 square miles remained to be settled at the commencement of the year, to which one block (·62 square mile) in *North Malabar* and one in the *Nilgiris* (·04 square mile), were added during the year. Of these, five blocks aggregating ·186 square mile were finally settled and transferred to reserved forests. One block of ·16 square mile in *North Coimbatore* was also notified but the reservation takes effect only after the close of the year. The balance under settlement was seven blocks of 4·07 square miles; but the settlement of six of these was practically completed.

3. DEMARCATION.

Northern Circle.

9. One and a half miles of district boundary between *Kurnool South* and *West* divisions were newly cut free of cost in return for the growth standing on the line. *Old boundaries.*—Four thousand eight hundred and three miles are reported to have been cleared during the year by subordinates free of cost. The growth on about a mile of the boundary of Rekapalli Hill Reserved forest in *Gōdāvari Upper* was uprooted at the heavy cost of Rs. 115. Twenty-six miles of boundaries in *Kistna* were surveyed as a preliminary to rectifying the demarcation and 39 miles in *Kurnool West* were rectified and repaired; the expenditure incurred was Rs. 23 and Rs. 352-8-0 respectively. In *Kurnool East*, 570 miles of lines are reported cleared by the subordinates free of cost. The work done on the other 93 miles maintained is not specified the only expenditure shown being under whitewash and cairn repairs, on which a sum of Rs. 964 has been spent mostly in the three *Kurnools*.

The total length of finally notified boundaries at the close of the year was 6,418 miles; of which, 5,921 miles were demarcated and 486 miles do not require artificial demarcation. In *Gōdāvari Upper*, Rs. 926 was spent in maintaining lines between zamindari and unreserved lands to a length of 424 miles.

Central Circle.

10. Twenty-nine miles were newly demarcated in *Bellary* at a cost of Rs. 1,283. Rupees 2,859 were spent on repairing and improving 97 miles of the existing boundaries already demarcated and for permanently demarcating 56 miles with solid stone pillars surrounded by well-packed cairns of stones and with a lockspit or a two feet stone alignment.

11. Final demarcation was carried out in Madura over a length of 21 miles. In North Vellore, 16 miles of compartment lines were demarcated with cleared lines and stone slabs at a cost of Rs. 533. The demarcation of five enclosures in the Javadis of Ambur range (390 acres) was completed by the departmental surveyor. The work of demarcation of enclosures in the Javadis of South Vellore is being carried on gradually, a certain number of enclosures being taken up each year; Rs. 107 was spent during the year. In West Vellore, 9½ miles of boundary line between the Government and mitta forests on the Yelagiris was recleared at a cost of Rs. 14-8-0. In South Arcot, the rectification of the demarcation of certain class II forests was completed at a cost of Rs. 166. In North Salem, Rs. 212 was spent on the verification and rectification of reserve boundaries and enclosures. Rupees 1,285 were spent from Political funds in reclearing the Madura-Travancore boundary to a length of 46 miles. *Southern Circle.*

Out of the total length of about 7,212 miles of old boundaries repaired during the year, 5,949 miles are reported to have been cleared or repaired free of cost by subordinates.

12. *New boundaries.*—Seven miles in *North Malabar* and two miles of district boundary in *The Nilgiris* were newly demarcated at a total cost of Rs. 883. The average cost per mile of fresh demarcation increased from Rs. 80-8-0 to Rs. 98-1-9. The increase occurred in the *Nilgiris*, but no explanation has been furnished. *Western Circle.*

Old boundaries.—One thousand one hundred and seven miles of old boundaries were repaired during the year. Of this, 577 miles were cleared by subordinates free of cost in *North Malabar*, *North*, *Central* and *South Coimbatore*. The subordinates continued to clear and maintain the boundaries in the other divisions also (except in *South Malabar* where it is not necessary), though no records are kept of the exact length cleared by them. In the *Nilgiris* 156 miles which included 32½ miles of the district boundary, were verified and permanently demarcated, and in *Mangalore North* 75 miles were either stone-lined or lockspitted. The average cost per mile of repairs is Rs. 37-15-5 against Rs. 45-15-0 in the previous year.

The total length of boundaries at the close of the year was 8,030 miles of which 6,763 miles were demarcated, and 906 miles do not require artificial demarcation. Thus at the close of the year there remained 361 miles still to be demarcated, of which 222 miles were in *Kollegal.*

4. Forest Surveys.

(*a*) *By the Survey of India Party.*

13. The Survey of India did no work during the year on account of the war. *Northern Circle.*

(*b*) *Local Surveys.*

All coupes and 136 miles of block lines in the Sâl forests of *Ganjām*, the alignment of cart-tracks, bridle-paths, and fire-lines in *Kurnool East*, 37½ miles of fire-lines in *Kurnool South*, a cart-track and the areas under improvement fellings in *Kurnool West* and the verification of three reserved forests in *Kistna* were surveyed departmentally. The surveyor employed by the department in *Gōdāvari Lower* surveyed and took levels for repairing a tank in Rajavommangi reserved forest besides surveying the areas covered by the preliminary working plans for Peddapur and Gokavaram Ranges.

(*c*) *Maps.*

Reference maps under Section 80 *of the Madras Forest Code.*—Except in *Ganjām* which has not furnished information on this point, these maps are reported to have been maintained and posted with the exception of the range reference maps in *Kistna.*

Special District Reference maps.—None of the maps prepared by Mr. Descubes, the late Forest Map officer, have yet been printed and published. The Forest Map office at Dehra Dun could not proceed with the printing of the maps owing to paucity of officers on account of the war. The proofs of the maps for *Kurnool East* and *South* were prepared and are being checked. The proof for the map of *Ganjām* was under preparation.

(a) By the Survey of India.

Central Circle.

14. The party continued its operations in *Nellore* district and completed the survey. 44·848 square miles were surveyed on the 4″ scale and 133·993 square miles on the 2″ scale. The party also worked in *South Cuddapah* district and surveyed 30·190 square miles on the 2″ scale.

By the Madras Survey Party.

No survey work was undertaken.

(b) By Departmental Surveys.

Survey of coupes, verification and rectification of boundaries, alignment of roads and the preparation of coupe, working-plan and fire maps were as usual done by the departmental staff.

(c) Maps.

The reference maps referred to in Section 80 of the Forest Code are reported to have been maintained and posted in all districts.

(a) By the Survey of India Party.

Southern Circle.

15. No surveys were undertaken except in Tinnevelly where the Survey of India Party surveyed the boundary line between Singampatti and Travancore and a portion of the line between Singampatti and Kalakad forests.

(b) The Madras Survey Party.

The revision survey operations by the Madras Survey Party continued in South Vellore, South Arcot, and Madura and the Forest discrepancy sketches have been returned verified.

(c) By Departmental Survey.

All coupes were surveyed by ordinary staff except in North Salem where certain coupes were surveyed by surveyors and in Madura where similar work was done by a supervisor. The surveyor in South Salem was employed in checking the plans and notifications of the proposed blocks on the Pachamalais.

A variety of survey works such as verification of reserve boundaries and surveying and aligning of roads was done by existing staff and departmental surveyors.

(d) Maps.

Reference maps referred to in section 80 *of the Forest Code.*—These are reported to have been maintained in all districts except Trichinopoly.

(a) By the Survey of India Party.

Western Circle.

16. The special surveyor deputed by the Survey of India completed the final (planetable) survey on 8″=1 mile scale of eight plantations covering 3,252 acres in two ranges in *South Malabar* at a total cost of Rs. 2,009.

(b) Local Surveys.

The survey of timber, fuel and bamboo coupes in the two *Mangalores* and *Central Coimbatore*, 60 acres of Ponam cultivation in *North Malabar*, area for the extension of teak plantations in *South Malabar*; four roads to a distance of 12 miles, sandal and fuel coupes, and one settlement of 112 acres in *Kollegal*; fuel coupes, and verification and rectification of boundaries and road alignments in *North Coimbatore*; fuel coupes and one road in *South Coimbatore*, were carried out departmentally. The head surveyor of the Madras Survey Party deputed to survey the estates on the Anamalais in *South Coimbatore* completed the survey of 14 blocks from December 1917 to February 1918.

(c) Maps.

Reference maps under section 80 *of the Madras Forest Code.*—These are reported to have been maintained and posted up to the end of the year.

Special district reference maps.—The map of *South Malabar* division was printed and published by the Forest Map Office, Dehra Dun, while that of *North Malabar* will shortly be printed.

CHAPTER II.—MANAGEMENT OF STATE FORESTS.

I. Regulation of management.

(a) *Preparation and control of regular working-plans.*

17. *Preparation—Ganjām.*—Mr. Minchin with the help of a small special staff continued to collect data and statistics for the preparation of a regular plan for the Sâl forests. The reconnaissance report was prepared and approved and the final plan is under preparation. *Kistna.*—A working plan for the forests of Bandar Range was prepared and sent up for sanction after the close of the year. *Northern Circle.*

As shown in Form 69, working-plans for 2,630 square miles have been prepared and approved by the Board. Of these, regular working-plans cover only 786 square miles and the rest are preliminary and tentative working-plans sanctioned for short periods during which data might be collected for the framing of more elaborate plans.

18. *Revision.*—The revision of the working-plan for Coringa in *Gōdāvari Lower* was awaiting the survey of the forest. Those for the forests in the Ellore and Bezwada ranges in *Kistna* are being revised.

19. *Control.*—The working-plan for Peddapalli reserved forest in *Vizagapatam* the actual working of which was far behind and the period of rotation insufficient was cancelled. In *Kistna*, three timber and fuel coupes were not worked for want of demand. In *Kurnool West*, the stone walling round fuel coupes on the Yerramalais was not taken up on account of financial stringency.

20. (*b*) *Preliminary working-plan Reports—Gōdāvari Upper.*—The tentative working-plan sanctioned for Marrigudem range prescribes working only in unreserved lands. *Ganjām.*—The roads and buildings and sinking of a well at Budoguda prescribed in the interim plan for the forests of Goomsur and Pondakhol were postponed for want of funds. Kepati fuel and Kumsoro bamboo coupes were not worked for want of demand. Two fuel, one bamboo and three charcoal coupes not provided in the plan were worked to meet the local demand. *Vizagapatam.*—A scheme for the systematized working of bamboos in Palakonda Range on a five-year rotation was prepared. *Gōdāvari Lower.*—Preliminary working-plans for Rajahmundry and Polavaram ranges comprising an area of 108 square miles were prepared, but had to be revised. None of the fuel coupes and one bamboo coupe in Peddapur range were sold for want of demand. *Kurnool East.*—The collection of minor produce which is not provided in the plan for Gudem range was undertaken to provide labour for the *Chenchus*. *Kurnool South.*—The preliminary plans for the Chelama and Sirvel working circles and Giddalur range were generally adhered to. Six fuel coupes aggregating an area of 1,240 acres in the 'grazing' area of the Sirvel working circle were opened and felled; this is not prescribed in the plan.

21. *Preparation.*—In *Bellary*, a simple working-plan for a part of Somalapuram reserve (1,220 acres) in Kudligi range was tentatively approved by the Conservator and that for Daroji tank bed area was returned for revision. The working-plan for Sandur leased forests submitted to the Board last year was not sanctioned as the leased forests were handed over to the Sandur State at the close of the year. In *Guntūr*, working schemes are under preparation. In *North Cuddapah*, a preliminary working-plan for fuel and bamboo working circles in Lankamalai was returned for revision. In *West Cuddapah*, the working-plan for Idupulapaya palmyra plantation was tentatively approved. In *Nellore*, a working scheme for Appasamudram was approved and a revised working-plan for Nellore range including Ipur and Momidi reserved forests was returned to the District Forest Officer for revision. In *Chinglepūt*, a working-plan for the reserves of Tiruvallur range was tentativelly approved by the Board in Board's Reference No. 1503, dated 28th August 1917, and that for Guindy Park sanctioned in B.P. Forest No. 207, dated 10th September 1910, was cancelled in B.P. Forest Mis. No. 20, dated 19th January 1918. In *Chittoor*, a tentative working-plan for Santhapet reserve was approved. *Central Circle.*

The working-plan in *Anantapur* needs revision and those cancelled in *Bellary*, *West Cuddapah* and *Chittoor* require renewal.

As represented last year no satisfactory progress in the proper preparation of working-plans is possible with the present hopelessly inadequate staff.

22. *Control—Bellary.*—Three coupes in the Adōni working-plan and 13 coupes in the Harpanahalli working-plan were sold, some of the latter were not sold for want of demand.

Harpanahalli working-plan.—All the second class forests were divided into three working circles and the limits of the protection working circle were clearly defined by artificial demarcation. *Anantapur.*—Compartments I to III of Kasba working circle of Kalyandrug range which were closed to grazing were thrown open to grazing as per orders in B.P. Forest No. 92, dated 18th November 1917. *Guntūr.*—Two coupes in Tadepalle and Takkellapad were sold. The prescriptions of the working-plans of Kolakalur and Lam reserves were not carried out as their disafforestation has been ordered by the Board in B.P. Forest Mis. No. 369, dated 14th December 1917, and 1, Rout., dated 3rd January 1918, and that for Kuragallu is under correspondence—Board's Reference No. 1578/Gl.1 8–1, dated 18th July 1918.

North Cuddapah.—During the year the Board has sanctioned in B.P. Forest Mis. No. 128, dated 6th April 1918, the revised tabular statement of fellings in respect of the working-plans sanctioned in B.P. Forest Nos. 140, dated 27th July 1908, and 150, dated 1st August 1908. The Board has also sanctioned an amendment to B.P. Forest No. 150, dated 1st August 1908, in respect of marking standards in the working-plans. Two coupes which remained unfelled were sold. The Kalasapad working-plan was adhered to. Improvement coupes in Lankamalais and one out of the three improvement coupes in Nallamalais were leased out. *South Cuddapah.*—Out of 28 coupes, 24 were worked and the remaining coupes were not sold for want of demand. *West Cuddapah.*—The prescriptions were generally adhered to in red sanders area of Sidhout Palakondas and fuel area of Kanamalopalle and Konarajupalle reserved forest and Idupulapaya palmyra plantation. *Nellore.*—Coupes 1 and 2 of Sangam and Rajavolu working circles were not sold for want of demand. *Chingleput.*—Ten coupes were not leased out for want of demand. *Chittoor.*—Coupe 1 of Santhapet working circle, coupe IV of Mamandur and coupes 3 and 4 of Thumburukona felling series were worked. Coupe 4 of Inaparallamitta and Gadipenta working circles remained unfelled for want of demand owing to lack of railway transport.

Southern Circle.

23. *Preparation.*—Some progress was made in the preparation and revision of working-plans, but the total outturn was only a small fraction of the work required.

The Special working-plans Officer was working in Tinnevelly but was constantly being taken off the work to attend to Military duty. The Reconnaissance report for the revision of the Kuttalam working-plans was approved of in May and the plan is under preparation.

During the year, working-plans for the Tirukkoyilur forests in *South Arcot*, for the Talanayar and Kodiakadu forests in *Tanjore* were sanctioned, but the most important plan drawn up was that for the sandalwood areas in *South Salem.*

The bamboo working-plan for the Javadis lying in North, South and West Vellore was taken up for revision and stock-mapping was completed in *South Vellore*, and about half done in *West Vellore.* The progress made in *North Vellore* has not been reported. In Madura a small scheme for bamboo working was approved by the Conservator.

24. *Control.*—The only plans in the circle which can be brought under complete control are the Modern Sandalwood Plans for the Javadis of South and West Vellore, the Chitteris, Shevaroys, Kolroyens, Pachamalais and Kollimalais of South Salem and the Uplands of North Salem. In all these areas work was regularly controlled but on the Javadis work in coupe III of all series had to be postponed as the work of collection of trees uprooted by the cyclone of November 1916, provided full work for the year.

The Madura Fuel working-plan sanctioned in B.P. Forest No 136, dated 31st August 1916, was also completely controlled and here also a necessary change was sanctioned. In eight series coupes prescribed for the year could not be worked owing to the railway being unable to carry away the material to the required destination. In their place seven coupes within carting distance of Madura were selected for

felling. In *Tinnevelly* the working-plans which have been under successful working for twenty years have run out. As it is desirable to prolong the rotation, extra areas of forest have been selected to add to the various series and these are being worked in the interim whilst the plans are being revised.

25. *Preparation.*--The special working-plans staff under the direct charge of Mr. H. F. A. Wood, who was also the District Forest Officer, *South Coimbatore*, completed the working plan for the Tekkadi leased forests and the Mount Stuart ghaut forests. This has since been submitted to the Board for orders. After its completion the special staff was transferred to *North Malabar*. A working-plan for the Parappa reserve was prepared by Mr. J. H. Longrigg, District Forest Officer, *South Mangalore*, but it was held back with the Board's approval until some definite and workable plan for the principal operation—Hopea sowing—can be incorporated in it. In *North Coimbatore* a working-plan for four fuel working circles (23 square miles) was prepared by Mr. C. M. Hodgson, District Forest Officer, and sanctioned by the Board. *Western Circle.*

26. *Revision.*—The revision of the working-plan for Begur forests in *North Malabar* has been taken up by the special working-plan staff under the supervision of the District Forest Officer Mr. G. S. Lasrado, assisted by Mr. M. C. Chandy, Extra Assistant Conservator, and the work is in progress. In *South Malabar* the preparation of a revised working-plan for the teak plantations and the adjoining natural forests, taken up last year by Mr. R. Bourne, District Forest Officer, is in hand and is expected to be completed by the end of 1918. *North Coimbatore.*—The Gōbichettipālaiyam working-plan referred to in the last year's report was further revised by the addition of one more fuel working circle (one square mile). The revision of the working-plan for Erode range could not be undertaken by the District Forest Officer, *Central Coimbatore*, for want of time. *South Coimbatore.*—The working-plans for the Mount Stuart Ghaut forests and the Varigali valley have been revised, the areas thereof having been included in the newly prepared working-plan for the Tekkadi leased forests.

27. *Control.*—The provisions of the existing working-plans were adhered to with the following important deviations:--*Mangalore North.*--Owing to lack of demand, many of the fuel coupes in Udipi range, set apart for the supply of sandal stills, were not worked during the year. *Mangalore South.*—Kadambilla coupe X of the Shirady timber working circle was worked departmentally. The area of Muliyar coupe IV, being found to be too large, was divided into three strips and sold separately. A few bamboo coupes remained unsold in the previous year were sold standing; and a sample plot of 10 acres in one of the coupes of the Puthur Town fuel working circle which was closed in 1916 for want of demand, was worked departmentally, the fuel being brought to Mangalore for sale. *South Malabar.*—Certain prescriptions of the revised working plan under preparation, viz., commencement of final fellings, etc., were anticipated and carried out during the year. *The Nilgiris.*—A further portion of Compartment 3, Block VI, Governorshola Working Circle was worked in the year to supplement the supply of firewood in Ootacamund range. Compartment 22, Block I of Acacia working circle and Compartment 7, Block I of Eucalyptus Working Circle, Coonoor, were not worked, the age of the growth in the former being found to be too young, and there was want of labour to work the latter. *Kollegal.*—Coupe IX of Araipalayam Fuel working circle which ought to have been worked in 1914–15 was sold standing during the year. The sandalwood working-plans in *Kollegal* and *North Coimbatore* have been held in abeyance owing to the spread of 'spike' disease and the work in those areas was confined to the extraction of all dead, dying and spiked sandal trees. *Central Coimbatore.*—The Bolampatti working-plans (except for Chinnar and Walayar working circles) remained unworkable. *South Coimbatore.*—Special squared timbers were cut for supply to the military department from the Mount Stuart and Tekkadi forests.

28. *Preliminary Working-Plan Reports.*—Three Working Circles in *Kollegal*, two fuel and two bamboo coupes in *Central Coimbatore*, 15 fuel, 11 bamboo and 11 sandalwood coupes in *North Coimbatore*, and the Tekkadi leased forests in *South Coimbatore*, continued to be worked systematically under the preliminary working scheme.

(b) Annual plan of operations.

Northern Circle. 29. Owing to financial stringency certain roads and buildings, sinking wells, repairs to tanks, bunding of streams in reserved forests and widening boundary lines of forests were postponed. Four fuel and two bamboo coupes in *Ganjām* and one timber and two fuel coupes in *Kurnool South* and improvement fellings in two coupes and coppice felling in one coupe in *Kurnool West* were not worked for want of demand. The selection felling in the unreserved lands of Bhadrachalam taluk other than in the Marrigudem Range, *Gōdāvari Upper*, was not carried out as the working was not systematized. The demarcation of Nugur, Peddamidesileru and Cherla blocks in the same district was not taken up as the settlement was not completed.

Central Circle. 30. The sanctioned annual plans of operations were not generally adhered to owing to financial stress.

Southern Circle. 31. The chief deviations in the annual plan of operations were the postponement of certain roads and buildings due to various causes such as the financial situation, difficulty of obtaining labour, illness of subordinates, etc. The more work is concentrated on the hills the more difficult it is becoming to get labour for the forest roads and buildings. A few Malayalees are now taking to road work but it is becoming more and more imperative that these hill men should be trained as skilled labourers.

Western Circle. 32. Besides the deviations mentioned in paragraph 27, the only other important deviations were:—*Mangalore North.*—The extension of Gundaberu road and two other roads and the Guards' sheds at Nellikar and Bantwal, were not taken up for want of funds. The inspection bungalows at Kervashe and Aldangady were given up in favour of other urgent works. *Mangalore South.*—The improvement fellings in Kidu and Niddle were not done, a few road works and subordinates' lines in three places had to be deferred for want of funds; inspection bungalow at Charmady ghaut given up; and stone-lining in the Parappa and Mandekole reserves, postponed. *North Malabar.*—Instead of the inspection bungalow at Tirunelli an old forest guard's shed was converted into a rest-house. Forest guards' quarters in seven places were given up for want of funds. *South Malabar.*—Improvements to District Forest Officer's bungalow, guards' quarters in two places, and demarcation of Edacode, etc., plantations, were deferred for want of funds. River training works in the Chaliar river were not undertaken by the Public Works Department. Final fellings in three old plantations and the formation of new plantations in those felled areas; felling trees in the natural forests and final demarcation of Walluvasheri plantation, which were not provided for in the plan, were carried out in the year. *The Nilgiris.*—Improvement fellings in Mudumalai compartment 4 were only partly carried out. Thinning in the Newman plantation for charcoal manufacture was postponed pending disposal of the existing stock. A road along the Nilgiri-Mysore boundary was given up for want of funds. Erection of a store room at Kargudi and the transfer of District Forest Officer's and Range Officer's serambies at Mudumalai to a more healthy site, were deferred as they were not of urgent necessity. *Kollegal.*—Construction of Gundal Valley road and two other roads, rest-houses at Adamalnatham and Doddasampagai, Deputy Rangers' quarters at Dinnahalli, permanent demarcation of Yederhalli, Ponnachi, Chengadi and Madeswaranmalai enclosures, stone-ridging the Hanur Reserve, were not undertaken for want of funds. Eradication of lantana and prickly-pear in Bailur Sandal Working Circle, not provided for in the plan, was begun during the year. *North Coimbatore.*—Hassanur-Hulikarai, Kakkarai-Hosahatti and Tamarakarai-Koilnatham roads were not taken up pending final orders of the Board; and metalling Kadambur road for want of early rains. Subordinates' lines at Michaelpalayam rest-house and out-houses and subordinates' lines at Ullurthanda and outhouse at Bedarhalli, demarcation of enclosures in certain reserves and the improvement of water-supply in some of the reserves, had to be postponed chiefly for want of funds. *Central Coimbatore.*—Timber fellings in Jakkanarai and Kallar working circles were not fully carried out; in lieu of the extraction of dead timber provided for, the felling of *Givotia* timber to the Director of Industries and of *Grewia tiliæfolia* for war purposes was undertaken. Owing to the difficulty of extraction no bamboo coupe in Narasapuram and Kalladikode forests was sold. Several of the

roads and building works, and stone lining along certain reserves, were deferred for want of funds. The completion of the construction of elephant kraal and the demarcation of a section of Chenat Nayar reserve, were taken up though not provided for in the plan. *South Coimbatore*—Felling of timber in Compartment XXVIII was not taken up owing to the large stock of old timber on the ground and on account of the revision of the working-plan. New Mount Stuart ghaut road and two other roads were given up not being necessary. Construction of a bungalow in coupe III, Punachi range, and the subordinates' lines at Ulandi and Dhalli, was deferred for want of funds. Felling timber for military purposes and purchase of tramway materials were carried out though not provided for in the plan.

2. Communications and Buildings.

(a) *Roads and bridges.*

Northern Circle.

33. About $37\frac{1}{2}$ miles of new cart-roads and bridle-paths were added and $294\frac{1}{2}$ miles were repaired. The total expenditure incurred was Rs. 21,970 against Rs. 32,031 in the previous year; a sum of Rs. 17,585 was spent on repairs against Rs. 19,083 in 1916–17. The important new works of the year were the construction of 2 miles of cart-road in the Pondakhol Agency in *Ganjām*, 2 miles of the Kondasantha-Tadeparti road in *Vizagapatam*, 7 miles of bridle-path from the Mantrala ghaut road to the Dornal-Peddachama road and 6 miles of the Regumanipenta-Nuthadikala road in *Kurnool East.*

Central Circle.

34. The outlay on communications and buildings is given below :—

	1916-17.	1917-18.
	RS.	RS.
Roads and bridges	13,214	17,099
Buildings	17,183	25,761
Other works	812	887
Total ...	31,209	43,747

35. The chief works are—In *Bellary*, re-construction of the very old road in the leased forests for 4 miles. In *Anantapur*, repairs to existing roads to a length of 9 miles. In *Guntūr*, repairs to Anupalem-Mogalutla road (7 miles) were completed. In *North Cuddapah*, repairs to Nallamalais road (9 miles) were completed and the construction of a cart-track from the western boundary of Lankamalais to Kothabbavi and bridle-path from Narasimha bhavi to Lankamalais extension (2 miles) are in progress. In *South Cuddapah*, construction of a cart-track from Balapalle to Mogilipenta via Kangamadugu (6 miles) was completed and the construction of a cart-track to join Kodur Range boundary with the Arimanipenta cart-track (distance 2 miles), and formation of a cart-track from Arimanipenta to Bodithula bhavi for 3 miles are in progress. In *West Cuddapah*, Guvvalacheruvu-Korthimadugu road and Kondagorlapenta bridle-path were completed and the cart-track from Palakondas reserve boundary to Sundramanipenta for 3 miles and repairs to Cuddapah-Korthimadugu road for 7 miles are in progress. In *Nellore*, the formation of a bridle-path at the foot of the Udayagiri-Yerrakondas and conversion of compartment lines into branch bridle-paths in Rapur Veligondas were undertaken during the year (distance 25 miles). In *Chingleput*, construction of a road in Sattiyavedu reserved forest (3 miles) and construction of four culverts in Guindy Park and laying two branch roads in Ambakkam for 2 miles and repairs to road in Guindy Park were completed. In *Chittoor*, construction of a road from the well to Parakalatippa for 1 mile, repairs to Samireddipalle-Gudiyattam road (5 miles), Mamandur-Puliutla road (9 miles), Mamandur-chatram road (4 miles), Pallikuppam-Naniyal road (5 miles) and Horsleykonda bridle-path (3 miles) were completed, and the Puliutla Chatram road (2 miles), Nagapatla Bhakarapet and Nagapatla-Pulibone road (1 mile) are in progress.

36. *Tramways.*—The laying of temporary tram lines in connexion with the transport of fuel in Sriharikota forest and in the Coast Casuarina plantation was continued and the use of the lines and tram trucks is granted to contractors on hire. Four thousand one hundred and five tons were transported over the Sriharikota tram line and none over the Nellore line against 3,765 and 1,045 respectively in the previous year. The reason in the latter case is due to failure of the contractor to transport fuel.

Southern Circle.

37. The total expenditure on new works amounted to Rs. 59,470 and on repairs to Rs. 16,910 as compared with Rs. 56,240 and Rs. 16,184 in the previous year. The bulk of this expenditure was incurred by the Forest Engineer who spent Rs. 47,000 on the construction of 8 miles 5 furlongs of the Alangayam-Komattiyeri Ghaut road and another Rs. 2,000 on the investigation of the Komattiyeri-Patrakad and the Melpat-Paramanandal roads.

The chief new construction carried out by District Forest officers was—

in *North Vellore* (1) The Pinnathurai-Amerdi road first section, four miles at a cost of Rs. 810.

(2) Two miles of the Thottalam-Naickaneri road at a cost of Rs. 599.

(3) the metalling of the Amerdi road $1\frac{1}{2}$ miles at a cost of Rs. 412.

in *Trichinopoly*, the Kalpatti-Pillayarnatham road $4\frac{1}{2}$ miles at a cost of Rs. 2,378.

in *Madura* (*a*) The lower section of the Sattiyar Valley road.

(*b*) The Sirumalai-Nattam-Dindigul road.

(*c*) The bridle-path from Neutral Saddle to Ganguvarodai.

(*d*) The conversion of Alagar Hill bridle-path into a cart-track.

Western Circle.

38. The expenditure on new works amounted to Rs. 17,927 and repairs to Rs. 21,664, as compared with Rs. 19,880 and Rs. 24,579, respectively in the previous year. *Important new works of the year—Mangalore North.* Completion of the Hale-someshwar road—*Mangalore South.* An approach road to Kollamogaru inspection bungalow. *North Malabar.*—A road trace through Kottiyur reserve. *South Malabar.*—Five and three quarter miles of road and eight and three quarter miles of bridle-path. The *Nilgiris.*—The construction of a road between Newman and Rallia, a road in Snowden Working Circle, commencement of the College main road; construction of a bridle-path between Blocks II and III in Mudumalai working circle, and two bridges on the Thorappalli road. *Kollegal.*—Extension of Hosur-Ponnachi bridle-path (6 miles). *North Coimbatore.*—Metalling Kadambur and Bargur ghaut roads to a length of $3\frac{1}{2}$ miles. *Central Coimbatore*—Preparation of traces for Aniarkāndi-Muthikulam, Punnapara-Eliwal and Thadagam-Anaikatti roads. *South Coimbatore.*—Extension of tram line and completion of a foot-bridge.

Tramways.—The tramway in Tekkadi leased forests was further extended for four furlongs. The tramming was solely done by Government bulls the outturn of work during the year under report was 9,584$^{6}\frac{1}{0}$, against 11,433$\frac{7}{8}$ ton-miles of the previous year and the working charges increased from As. 14–9 to Rs. 1–4–5 per ton-mile, the increase being due to charges incurred for tramway materials. The working of the year showed a net profit of Rs. 6,234 against Rs. 11,192 in the previous year.

The work of the Forest Engineer.—Mr. F. J. Marshall, Engineer in charge of all the Forest Engineering Works in Southern and Western Circles, completed the investigation work for the Tekkadi Tramway $21\frac{1}{2}$ miles, at a cost of Rs. 814. An estimate amounting to Rs 6,45,000 was received after the close of the year, and this includes the cost of construction of permanent-way, rolling-stock, buildings, wells, acquisition of land, etc. The Board's sanction was obtained for the construction of quarters for overseers and sub-overseers who will be in charge of the construction works of the Tekkadi tramway, and the lands required for these quarters are being acquired. The construction of the Mount Stuart Ghaut road was held in abeyance indefinitely as a result of a conference held by the Forest Commissioner.

(*b*) *Buildings.*

Northern Circle.

39. The expenditure on new buildings amounted to Rs. 8,388 and on repairs and maintenance to Rs. 14,831; the figures for the previous year were Rs. 9,222 and Rs. 15,529 respectively. The following were the principal items of new works. The quarters of the rānger at Russellkonda in *Ganjām* were completed. *Kurnool East.*—Deputy ranger's quarters at Chintala and the out-houses to the range quarters at Cherlopalli were commenced and the inspection shed at Regatikunta was completed. *Kurnool South.*—The rest-house at Aleabad was completed and that at Utla was commenced. The Range office and quarters at Racherla commenced last year were in progress. The inspection bungalow at Prema in *Kurnool West* for the common

use of the Forest and Fisheries departments was completed, the cost having been shared equally.

40. In *Guntūr*, the inspection shed at Mutukur was completed and the construction of an inspection shed at Venkatayapalem is in progress. In *North Cuddapah*, construction of a Range office and quarters at Vonipenta was completed and rest-houses and out-houses at Vothimadugu and Kothabhavi are in progress. In *South Cuddapah* construction of Rachepalle forest guards' shed was completed. *Central Circle.*

The following works are in progress—

Rest-house at Kodivengammabhavi and Bodithulabhavi and subordinates' quarters at Papanasanam. In *West Cuddapah*, construction of subordinates' quarters at Sanipaya, combined range office and quarters at Sanipaya, Poluthula inspection shed with kitchen and subordinates' quarters and rest-house with out-houses at Gadikota, are in progress. In *Nellore*, forest guards' shed in the Kollurpad plantations was completed and the out-houses and latrines to range quarters at Kanigiri, are in progress. In *Chingleput*, construction of out-houses to Kambakkam hill bungalow was completed. In *Chittoor*, construction of a motor shed at Panapakkam was completed and construction of range office and quarters and subordinates' quarters at Mamandur, is in progress.

41. During the year, the total expenditure on new buildings and on repairs amounted to Rs. 29,732 and Rs. 9,867 respectively against Rs. 21,240 and Rs. 10,321 in the previous year. The following work was done in— *Southern Circle.*

North Vellore.—The completion of Thongamalai rest-house and part construction of subordinates' quarters at Rangampet.

South Vellore.—The part construction of subordinates' quarters at Bargur and Thongamalai.

West Vellore.—The construction of Naickaneri rest-house by the Forest Engineer and also the construction of the Kuttathur rest-house and deputy ranger's quarters. It is most regrettable that very little progress was made on the important Puthur rest-house.

North Salem.—The completion of the sandalwood godowns at Anchetti, Ayyur and Jowlagiri.

South Salem.—The construction of Range office and Range officer's quarters at Kottapatti, and part construction of rest-house and out-houses at Mayambadi.

Trichinopoly.—Very little work was done on two important buildings, the subordinates' quarters at Nadukombai and the rest-house at Valappur.

Madura.—Very good progress was made and over Rs. 11,000 were spent on very important works. The Range offices at Palni and Andipatti were completed and that at Ayyalur well advanced, whilst the range quarters at that place were completed. Subordinates' quarters were completed at Malaipatti, Karandamalai and Surilipatti and commenced at Naranathevanpatti.

The rest-house at Kalluthu also was partly built.

Tinnevelly.—The construction of the Kodamadi rest-house and out-houses.

42. The amount spent under this head was Rs. 24,984 against Rs. 28,893 in the previous year. Of the former a sum of Rs. 15,259 was spent on new works and the balance on repairs. Rupees 20,448 and Rs. 8,445, respectively, were the figures for the previous year. The following were the principal items of new works :—*Mangalore North.*—Deputy rangers' quarters at Sitanadi. *Mangalore South.*—Completion of the inspection bungalow and deputy ranger's quarters at Kollamogaru; construction of an inspection bungalow at Bandihole and the commencement of forest guards' line at Kollamogaru. *North Malabar.*—Construction of double quarters for forester and guard at Nedumpoyil, a guard's shed at Tirunelli and subordinates' lines at Kottiyur. *South Malabar.*—Completion of the rangers' quarters at Nedungayam. *Kollegal.*—Construction of a rest-house at Lingamankarai and out-houses at Ponnachi. *North Coimbatore.*—Commencement of the construction of a rest-house and out-houses at Bedarhalli and subordinates' lines at Ullurthanda, and completion of the rest-house and out-houses at Koilnathan and the rest-house at Jeergahalli and subordinates' lines at Chikhalli. *Central Coimbatore.*—Range clerk's quarters at Iruttupallam, completion of the rest-house at Kunjapanai; and extension to the range office buildings at Iruttupallam. *South Coimbatore.*—Construction of the subordinates' lines at Kaliapuram. *Western Circle.*

(*c*) *Miscellaneous works.*

Northern Circle.

43. The total expenditure incurred was Rs. 3,421 against Rs. 3,562 in the previous year. The chief new works were the sinking of one well in *Ganjām* and two wells in each of *Gōdāvari Lower* and *Kurnool West*.—The damming of streams on the Nallamalais undertaken in the first half of the year to provide labour for *Chenchus* was given up as they were employed otherwise on bamboo operations and collection of minor produce.

Central Circle.

44. In *Guntūr*, repairs to Alisi channel were completed. In *North Cuddapah*, two new wells were sunk and eight wells were repaired. In *South Cuddapah*, one well is in progress. In *Nellore*, construction and repair of wells and improvement of ponds in the grazing blocks were done. In *Chingleput*, wells were repaired. In *Chittoor*, well near Parakalatippa was completed and trial shaft for a well at Puliutla is in progress.

Southern Circle.

45. Four new wells were sunk and the existing wells were repaired or deepened.

In *South Vellore* Rs. 612 was spent during the year on boring operations at Komattiyeri (almost completed) and Mandaparai (still in progress). In *West Vellore* a sum of Rs. 840 was spent on further deepening the well at Kottur, the construction of a tube well at Naickaneri and fencing round the compound of the London Mission bungalow at Tiruppattur. In *South Arcot* Rs. 105 were spent in converting a step well into a draw well at Sankarapuram.

Western Circle.

46. The total expenditure incurred was Rs. 1,481 against Rs. 2,041 in the previous year. The chief works carried out during the year were sinking two trial wells and stone-lining one well in *South Mangalore*, construction of a timber boom in *South Malabar* and the sinking of a well in *North Coimbatore*.

Telephone.—The telephone service in *South Coimbatore* is reported to have worked on the whole satisfactorily.

3. PROTECTION OF FORESTS

(*a*) *General protection.*

Northern Circle.

47. The following statement shows the number and classification of forest offences reported during the year as compared with those of the previous year and the average of the three years ending with 1916–17.

Cases.	Injury to forests by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total		Average for three years ending with 1916–17.
	1916–17.	1917–18.	1916–17.	1917–18.	1916–17	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	
Cases taken to court.	5	11	360	509	135	96	36	77	536	693	648
Cases compounded	5	2	2,016	1,837	459	426	159	315	2,639	2,580	2,675
Cases undetected.	148	284	169	128	12	3	3	..	332	415	428
Total ..	158	297	2,545	2,474	606	525	198	392	3,507	3,688	3,751

The total number of offences increased by about five per cent over that of the previous year and was less than the average of the three preceding years by 1·7 per cent. Compared with the offences of the previous year, there was an increase under *injury by fire* and *other offences*; and a decrease under the other two classes. The increase under *injury by fire* was due to the cases of incendiarism having been treated as undetected offences unlike in the previous year, while that under *other offences* to which all the divisions except *Kurnool East* have contributed, is attributed to better and closer supervision. The decrease under *unauthorized fellings* was chiefly in *Gōdāvari Lower* where the fall was in unreserved lands and has not been explained and in *Kurnool*, *South* and *West*, due to provision of labour for the neighbouring villages on felling coupes, collection of hay and other operations which kept them otherwise employed. The reduction under *unauthorized grazing* was principally in *Kurnool East* and is credited to the patrol system.

Of the cases disposed of by the Courts, about 89 per cent ended in conviction against 88 in the previous year. Forty-three cases were compounded and 11 withdrawn after they were taken on the Magistrates' file. The punishments inflicted by the Magistrates were generally satisfactory.

Compounded offences.—The number of cases compounded and the amount of fees realized were 2,150 and Rs. 24,548 respectively against 2,277 and Rs. 22,286. The increase in the amount of fees in spite of a fall in the number of offences was due to heavier fees levied chiefly in *Ganjām*, *Kurnool East* and *South*. The rules for compounding grazing offences were generally observed.

Undetected offences.—The number of undetected cases compared with those of the previous year increased by 25 per cent. Sixty-eight per cent of such cases was under *injury by fire* due to all fire occurrences except those caused in fire-tracing having been treated as offences.

Holding adjacent villagers responsible for commission of offences in particular forests.—The notifications of warning to villagers on the subject were published in *Vizagapatam*, *Gōdāvari Upper*, *Kurnool East* and *South*. No action was taken in *Ganjām*, *Gōdāvari Lower* and *Kistna*. Some of the villagers in *Kurnool West* were warned that the concession of free removal of grass from the Nallamalais and Yerramalais would be withdrawn if they continued remiss in helping to extinguish fires. A portion of the Nallamalai block II in *Kurnool East* was closed to grazing and free removal of grass for a portion of the year to some of the adjacent villagers as they were suspected of setting fire to the forest and failed to assist in putting out fires.

48. *Rewards.*—In *Kurnool East*, a sum of Rs. 159 was granted as rewards to the subordinates and private individuals for successful detection of offences. A guard in *Kurnool West* was given a reward of Rs. 25 for having caught hold of one of a large gang of fibre thieves at considerable personal risk.

49. The following statement shows the number of offences detected during the year compared with the previous year :— *Central Circle.*

Class.	Injury to forests by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total.	
	1916-17.	1917-18.	1916-17.	1917-18.	1916-17.	1917-18	1916-17.	1917-18.	1916-17.	1917-18.
1. Cases taken into court.	7	4	1,235	1,243	868	910	84	111	2,194	2,268
2. Cases compounded ..	9	3	3,691	3,490	2,637	2,424	185	205	6,522	6,122
3. Cases undetected ..	328	203	97	94	226	32	8	16	659	345
Total	344	210	5,023	4,827	3,731	3,366	277	332	9,375	8,735

50. There was decrease under all heads except other offences due mainly to extension of the kancha system in *Nellore* and to the introduction of the same system in *Chingleput* and to better protection in general.

Two thousand and two hundred and seventy-one cases were taken into court and 2,111 ended in conviction and 160 were acquitted and the percentage of failure fell to 7 per cent from 7·4 of the previous year.

Five thousand and seven hundred and fifteen cases were compounded for Rs. 64,019 against 6,124 cases for Rs. 65,203.

Rupees 2,149 were levied as fines on kanchadars for neglecting protection of kanchas.

During the year general instructions for the guidance of Forest subordinates in the prosecution of forest offences were issued in B.P. Forest No. 108, dated 17th December 1917, and B. P. Forest No. 24, dated 19th July 1918.

The punishments awarded by magistrates are reported to be generally adequate. In some cases the inadequacy of the penalties imposed by Magistrates is very marked, and this has been particularly noticeable in *Chittoor* in past years. The Collector of that district remarks as follows :—

" *Criminal cases.*—I have issued a new Standing Order defining the procedure and am now insisting on Subdivisional magistrates trying cases. In spite of the recommendation that they should do so made years ago by the Forest Committee, they have systematically neglected to do so. This should have the effect of improving the work of the magistracy. Some of the Sub-Magistrates—I have two particularly bad examples in mind—showed the most extraordinary want of sense

during the year in dealing with forest cases; they perversely misconstrued the Forest Act, discharged against all the evidence or inflicted absurdly low fines. The Deputy Magistrate, Chittoor, has, since he started trying forest cases, made a new departure by inflicting imprisonment without the option of a fine in some cases. I propose to commend his example to other magistrates. The sub-magistrates regard these cases only from the fiscal point of view and do not understand that what they have to consider is the damage done to forests rather than the value of property stolen and that the object of punishment is to deter rather than to recover the value of property."

The Conservator trusts that all magistrates when trying forest cases will bear the above words in mind.

51. During the year, in addition to rewards granted for detecting forest offences, the system of grant of rewards to the kanchadars of *Nellore* district in appreciation of good protection was introduced for the first time.

The important cases of rewards are mentioned below :—

In *South Cuddapah*, Rs 33 were disbursed in a big case of removal of red sanders timber marked with a counterfeit hammer. The accused were sentenced to pay a fine of Rs. 500 and in default to suffer imprisonment for six months. The seized timbers were sold in auction for Rs. 282. In *Nellore* Rs. 127 were granted to the subordinates for detecting grazing cases. Rupees 2,383 and a few medals were granted to the kanchadars in appreciation of good protection to the kanchas. In *Chittoor*, Rs. 40 were paid to the subordinates who detected a case of browsing 200 goats.

52. *The rules for the guidance of Forest officers in compounding forest offences in G.O.* No. 1990, dated 13th June 1910, and the rules prohibiting District Forest officers passing orders to confiscate the seized property when compounding an offence were observed generally throughout the Circle.

Southern Circle.

53. The following statement shows the number of offences of the year compared with the previous year :—

Cases.	Injury to forests by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total cases.	
	1916–17.	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	1916–17	1917–18.
Cases taken into court ..	7	11	2,405	2,553	497	499	83	52	2,992	3,115
Cases compounded ..	3	1	6,059	5,968	1,653	1,552	162	117	7,877	7,638
Cases undetected ..	439	587	113	147	9	24	1	4	562	762
Total ..	449	599	8,577	8,668	2,159	2,075	246	173	11,431	11,515

54. There is nothing remarkable in these figures except the large number of undetected fire cases.

Out of 11,515 cases, 3,375 relate to unreserves of which the great majority are unauthorized felling cases.

In South Arcot, the number of cases is still larger than it should be, totaling 2,260, but of these only 1,050 are in reserves and 1,210 in unreserves. In Trichinopoly also the number of cases in unreserves is greater than that in the reserves.

Cases brought to trial.

Year.	Convictions.	Acquittals.	Percentage of failure.
1916–17	3,651	146	3·84
1917–18	2,945	133	4·32

As compared with the previous year, there was decrease in the cases brought to trial in all the districts except in North Vellore and the decrease is very marked in Madura, Trichinopoly and North Salem.

Cases compounded.

Year.	Number of cases.	Amount.
		RS.
1916–17	6,827	* 54,964
1917–18	6,883	54,349

* Corrected as per the revised figures furnished by District Forest officers, West Vellore and North Salem.

In fixing the amount of compensation attention was generally paid to the orders contained in G.O. No. 1090, dated 13th June 1910.

55. In *South Vellore*, an important case relating to mischief by fire of six sandalwood trees standing on patta lands of the Ooran Rama Kavandan of Tekamarathur village ended in the conviction of the accused.

In *West Vellore*, a case of theft of sandalwood from Pulianur Ar of the Tiruppattur Javadis for the distillation of oil has been charged under section 379 of the Indian Penal Code and the Sandalwood Transit rules and is pending with the Magistrate.

In *South Arcot*, the important case of sandalwood smuggling from South Salem forests by the Kalroyen jaghir contractors of South Arcot district referred to in the previous year's report ended in the acquittal of the accused.

In *South Salem*, out of nine cases of sandalwood thefts, one was compounded, two were acquitted, three were convicted and three are pending inquiry.

56. *Small rewards* amounting to Rs. 425 were given for successful detection of goat browsing and sandalwood cases in South and West Vellore, South Arcot and North and South Salem.

Western Circle.

57. The offences reported during the year are classified and compared in the subjoined statement with those of the previous year and with the average of the three years ending with 1916–17 :—

Class.	Injury to forest by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total cases.		Average for three years ending 1916–17.
	1916–17.	1917–18.	1916–17	1917–18	1916–17.	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	
Cases taken into court.	31	18	275	260	96	126	93	66	495	470	611
Cases compounded.	69	63	2,016	1,480	564	496	275	202	2,924	2,241	2,584
Cases undetected.	302	400	40	39	10	1	3	2	355	442	348
Total ..	402	481	2,331	1,779	670	623	371	270	3,774	3,153	3,543

58. The total number of offences decreased by about 17 per cent from that of the previous year and by 11 per cent from that of the average of the three preceding years. The decrease was mainly under 'unauthorized fellings' in *Mangalore North* and *North* and *Central Coimbatore* divisions, probably due to the infliction of deterrent punishments. There was a small increase under 'injury to forests by fire' mainly due to *North Coimbatore*. The decrease under 'other offences' was mainly in *Central* and *South Coimbatore* though it was partly counterbalanced by an increase in *South Malabar* due to the inclusion of offences under Timber Transit rules.

Out of the 640 cases taken to court, 511 were disposed of, 129 remained pending disposal at the close of the year. The result of the disposed of cases was 466 convictions and 45 acquittals, the percentage of conviction being 91 against 92 in the previous year. The punishments inflicted by the magistrates are reported to be generally satisfactory, except in The *Nilgiris*. The matter is said to be receiving the Collector's attention.

Illicit timber fellings are reported to have been rampant in *South Coimbatore* where the prosecution of two such offences ended in the conviction of all the accused concerned, to four and six months' rigorous imprisonment.

Compounded offences.—The number of cases compounded and the amount of fees realized were 1,979 and Rs. 30,016 respectively against 2,673 and Rs. 31,272 in the previous year. The decrease in the number of offences is due to fewer offences reported from the unreserves in *Kollegal* and to the fact that the offences of 1915–16 from the unreserved lands of *Central Coimbatore* had been included in the statement for 1916–17. The fee realized was large in proportion to the number of offences compounded and this was chiefly in *North Coimbatore* due to severe punishments inflicted owing to the persistent theft by gangs of habitual thieves; in *South Mangalore* to a larger amount collected by the Revenue Department; and in *South Malabar* to the large fee levied in a case of illicit felling. Two hundred and seventeen cases were withdrawn during the year against 185 in the previous year. The rules for compounding grazing offences were followed in all districts and worked satisfactorily.

Undetected offences.—There was an increase by 25 per cent in the number of undetected cases over that of the last year and it was entirely under 'injury to forests by fire' due presumably to the fact that reports are insisted on wherever a fire occurs and that all fire occurrences except those caused in fire tracing, have been treated as offences.

Holding adjacent villagers responsible for commission of offences in particular forests.—Notices warning the villagers of their responsibility and of the punitive measures for commission of offences in the adjoining forests were published in *North Mangalore* and *the four divisions of Coimbatore*. No special steps were taken in *South Mangalore* and this system is not required in the two *Malabars*. In The *Nilgiris* the resident Chettis in Mudumalai were refused free permits for grazing and for timber and fuel for domestic consumption owing to their failure to assist the department in fire protection. As a result of large fires in the Moyar valley of the *North Coimbatore* division penning was prohibited there.

59. *Rewards.*—For detection of sandalwood cases in *Mangalore North* a sum of Rs. 85 was granted as reward. *Mangalore South.*—For detecting two shooting cases, three cases of fire occurrence and one of illicit felling of a teak tree, a sum of Rs. 25 was paid to the subordinates concerned. *North Malabar.*—Rupees 60 were paid to the hill tribes in two ranges for successful fire protection. *The Nilgiris.*—In two cases rewards to the extent of Rs. 9 were paid. The Game Association paid Rs. 67-8-0 as rewards to the forest subordinates for detecting cases of poaching. In *South Coimbatore* a reward of Rs. 15 was sanctioned and disbursed to the subordintes concerned in detecting a case of illicit felling.

(*b*) *Protection from fire.*

Northern Circle.

60. *Special protection.*—The usual methods of protection were followed. The *Khonds* in *Ganjām* and the *Koyas* and *Reddis* in the *Gōdāvaris* helped mostly in fire protection operations and were granted rewards for their services. In *Gōdāvari Upper*, lump sum payments were made for line-clearing and protection in addition to granting rewards. The area attempted to be protected was 2,360 square miles against 2,545 in the previous year. The decrease was mainly in *Vizagapatam*, *Gōdāvari Lower*, *Kistna* and *Kurnool West* due to transfers to 'general protection.' The season was dry and unfavourable. The percentage of successful protection was 86 against 90 in the previous year and 74 in 1915–16. The cost per square mile successfully protected was Rs. 23-6-9 against Rs. 22-13-0. Seventy-nine per cent of the total area burnt was in the *Kurnools*. Compared with the previous year's results, the area burnt decreased in the *East* and increased in the *South* and *West* divisions. The increase in the *South* was due to the inefficiency and indifference of the ranger in charge of Gundlakamma range where timber worth Rs. 500 was also burnt. The District Forest Officer considers that one of the Military Grass Farm contractors connived at the incendiarism in Chelama range with a view to secure an increased outturn of hay for the following year. In the *West*, the *Chenchus* were the cause of most of the fires which occurred near their settlements. They systematically set fire to the forests in order to facilitate their moving about freely, especially for the collection of minor produce, the crop of tamarind during the year having been abnormally heavy. A good instance of their sense of responsibility is afforded by

the case of the *Chenchu* boy of Pangidi who lost an arrow shooting squirrels and burned a coupe including cut timber and fuel to the value of over Rs. 500 to clear the grass.

61. *General protection.*—The area attempted to be protected was 2,293 against 2,064 square miles in the previous year and the percentage of failure rose from 6·5 to 9·1. Eighty-one per cent of the failure was in *Kurnool West* for the reason mentioned under 'special protection'.

62. The number and origin of fires during the year are given in Appendix A. The total number of fires was 342 against 318 in the previous year and the area burnt increased by about 40 per cent.

Central Circle.

63. There was no change in the system of fire protection. The area of forest tracts protected is shown in Form No. 72.

The area attempted to be protected during the year was 2,346 square miles against 2,218 square miles of last year and the area burnt was 276 square miles against 574 square miles of previous year.

In *Bellary*, all the felled coupes in the district and the plantations of the Adoni range were as usual fire-traced. Six fires of 8,326 acres occurred in Bandri reserve and one of 700 acres in Kupgal plantation. The whole of north-east block and Donimalai blocks were burnt. The increase is chiefly due to the unfavourable season of the year. In *Anantapur*, there were 95 fires burning in all 30,839 acres against 207 fires of 91,683 acres of previous year. Eight reserves were closed to grazing and free removal of grass as a punishment for incendiarism, and free removal of grass was prohibited in seven more reserves. This is reported to have had the desired effect on the villagers and accounted for the reduction in the number of fires during the year. In *Guntur*, no areas were specially fire-protected during the year. Twenty-one fires occurred covering an extent of 3,307 acres and they were caused more or less by the carelessness of the wayfarers. Parcels Nos. 32 and 33 of Gangalapenta of 5,060 acres burnt in 1916–17 were closed to grazing for two months from 1st July 1917. In *North Cuddapah*, the smaller area burnt during the year is due to timely fire-tracing operations and to the constant and vigilant patrol of the subordinates. There were two cases of malicious firing. The villagers were punished with the enhancement of grazing fees to four times the ordinary rate and withdrawal of the privilege of free removal of grass—vide B.P. Forest No. 1245, Routine, dated 11th September 1917. In *Nellore*, along the foot of the Veligondas of Udayagiri, Kanigiri and Rapur ranges, the ryots failed to assist in putting out fire in spite of warnings and they were punished with the withdrawal of the free removal of grass.

64. The origin of fires is given in Appendix A.

Southern Circle.

65. *Special protection.*—There was no change in the system of fire protection during the year except in South Vellore where an additional fire line called the Gangavaram fire line of 16 miles and 2 furlongs was cut in the Polur range with a view to help the Malayalis in preventing the possibility of any fire from the plains getting beyond the median line. The area attempted to be protected was 1,433 square miles against 1,382 square miles in the previous year.

The area burnt during the year was 42·13 square miles against 19·25 square miles in the previous year and the percentage of area successfully protected during the year is 97·05 against 98·61 in the previous year. The cost per square mile of successfully protected area rose from Rs. 12–3–10 to Rs. 13–1–10. The season was much less favourable to fire protection than that which preceded it.

66. *General protection.*—The percentage of failure rose from 1·23 to 2·39.

67. The number and origin of fires are given in Appendix A. There were 599 fires burning 68,280 acres against 449 fires burning 34,072 acres in the previous year and 697 fires burning 117 and 299 acres in 1915–16.

Western Circle.

68. *Special protection.*—The usual methods of fire protection were followed. The area attempted to be protected was 1,014 square miles against 1,068 square miles in the previous year, chiefly due to transfers from special to general protection. The decrease was in *Mangalore North*, *Nilgiris* and *North Coimbatore*, which was partly counterbalanced by an increase in *Central Coimbatore* due to extension of protection

to an additional block. The area burnt was 49 square miles giving 95·16 per cent of success compared with 98·3 in 1916–17 and 89·3 in 1915–16, the failure being chiefly in *The Nilgiris*, *Kollegal*, *North Coimbatore*, *North Malabar* and *South Mangalore* owing to the very unfavourable season. An area of 18 square miles, i.e., 37 per cent of the total area, was burnt in *The Nilgiris*. In *North Coimbatore* the entire *Hardwickia* experimental block in Bargur and 75 per cent of the Minchiguli rosewood block were burnt. The assistance of the hill tribes in *South Coimbatore* was enlisted as usual on fire protection on the reward system. The cost of protection per square mile of area attempted was Rs. 26–3–5 against Rs. 26–13–10 in the previous year.

69. *General protection.*—The area over which protection was attempted during the year was 2,605 square miles against 2,556 in the previous year. The percentage of failure rose from 2·4 to 14·05 and *North Coimbatore* and *Kollegal* mainly contributed for this increase, the percentage of failure in those divisions being 60 and 37 respectively. It is reported that there is a regular custom in normal years in North Coimbatore to burn the whole forest every second year to get young grass and only small areas in the intervening years.

The reporting of fire occurrences in these areas continued to be unsatisfactory especially in *Kollegal* and *North Coimbatore.*

70. The number and origin of fires during the year are given in *Appendix A.* The total number of fires was 563 against 455 in the previous year and the area burnt was considerably more, the average per fire having risen from 115 to 474.

(*c*) *Protection from cattle.*

Northern Circle.

71. Goats were not allowed into the forests. 73·5 per cent of the total area of reserved forests and reserved lands was open to other animals and 26·3 per cent was closed for the whole year and 0·2 per cent for part of the year. There was an increase of 45 square miles in the area closed for the whole year. The increase was chiefly in *Gōdāvari Lower* and *Kistna* due to closure of coupes worked and under working and in *Kurnool West* where it is not explained.

72. *Incidence of grazing.*—Owing to low demand, the question of grazing is not a difficult problem in *Ganjām.* In *Vizagapatam,* most intensive grazing continued in Sarvasiddhi range and steps have yet to be taken to reduce the incidence. In *Gōdāvari Upper*, there was an increase in the number of cattle grazed by the *Koyas* and *Reddis* under the privileges conferred on them and the District Forest Officer believes that foreign cattle must have been passed as belonging to them ; this matter needs investigation. In *Kurnool West,* the grazing incidence in the Dhone range is too heavy ; goat browsing on the Yerramalais is reported to be decreasing. In the other divisions, the incidence was within the possibility.

73. *Introduction of the forest village system,*—The conditions in *Ganjām, Vizagapatam,* the *Gōdāvaris* and *Kistna* are not suited to the introduction of the system. It is reported that statistics have been collected in *Kurnool East* and *South* to introduce it.

74. The number of cattle impounded was 16,737 against 25,254 in the previous year and 23,826, the average for three years ending 1917–18. Compared with the figures of the previous year, there was a marked decrease in *Kurnool East* and *West* due to a reduction in the number of grazing offences. It is to be noted that there had not been a corresponding increase in the grazing revenue.

Central Circle.

75. The area closed and open to grazing is exhibited in Form 73. The total number of animals grazed on payment amounted to 915,360 as per Form 74 against 1,021,881 and the general decrease is due to closure of several reserves to grazing in *Bellary* and *Anantapur* and to enhancement of grazing fees to four times in *North Cuddapah* and to an appreciably less number of sheep licensed during the year, being 487,688 sheep against 621,194 of the previous year. In *Nellore,* in the case of many of the kanchas, felled coupes or unsold kanchas were added to the adjacent kanchas for protection by the kanchadars. The protection is reported to have been good on the whole while only 73 kanchadars were fined Rs. 2,149 for bad protection and breach of the terms of agreement.

Thirty-three silver medals were awarded to selected kanchadars for good protection and cash reward ranging from 5 to 10 per cent of the kancha lease amount was paid to 136 lessees of the year 1916–17.

There were 370 kancha leases with an area of 256,379 acres open to grazing and 5,627 acres of closed area given for protection to the kanchadars. In *Chingleput*, the kancha system was introduced during the year and the system is reported to be working satisfactorily.

Semi-wild cattle.—As a result of the Forest Commissioner's inspection the acquisition of the enclosures in the Sriharikota reserve has been abandoned in Board's Proceedings, Forest Mis. No. 299 (Confdl. 7), dated 7th June 1918, and the question of the enhancement of grazing fees is under consideration.

Wild cattle.—Inquiries were made of professional cow-catchers in Sriharikota with a view to bring them to Ipur to catch the wild cattle there, but owing to their demanding excessive rates the proposal was dropped.

76. *Incidence of grazing.*—In *Bellary*, the question of general enhancement of fees was dropped by the Board in Board's Proceedings, Forest Mis. No. 185, dated 16th May 1918, on the ground that the district is too backward to admit of any change. Particular areas wherever the incidence appears to be excessive will be dealt with on their own merits in due course. In *Anantapur*, the incidence of grazing is one cow unit per 0·94 acre as against 1·08 acres of last year. With a view to the introduction of the forest village system, enhancement of grazing fees to As. 8 per cow was ordered in Board's Proceedings, Forest No. 580, Routine, dated 30th April 1918, and the results are being watched. The Collector remarks as follow :—

"I understand that 3 acres of well-protected area is the proper cow unit. If so, I do not expect that the enhancement of the grazing fee to As. 8 per cow unit will reduce the grazing incidence to the desirable limit. We might, however, wait and watch the result of the present enhancement for a year."

In *Guntur*, the incidence of grazing is one cow unit for 3·42 acres against 3·48 of last year. Though it is slightly heavier than that of last year, it must be considered normal and no special steps need be taken to reduce grazing any further at least till working-plans are prepared for the main reserves. In *North Cuddapah*, the incidence is 6·2 acres per cow unit, in *South Cuddapah* 6·52 acres per cow unit, and in *West Cuddapah* 5·9 acres per cow unit. As a safeguard against excessive grazing in all the three divisions it has been ordered that all cattle of the villages lying beyond 5 miles of reserved forests should be considered as foreign and charged at Re. 1 per cow unit in accordance with the Board's Proceedings, Forest No. 273, Routine, dated 21st February 1918. In *Chingleput*, the incidence of grazing was one cow unit for 2 acres generally except in a few cases in the Tiruvallur range where the incidence was fixed at one cow unit for four acres and for one acre according to the nature of the growth of grass. In *Chittoor*, as reported in last year, the incidence is still very heavy.

77. An analysis of cattle impounded is given in Appendix B.

Southern Circle.

78. About 76 per cent of the total area of reserved forests and lands was opened to grazing of cattle but closed against goats. The incidence of grazing in the several districts of the circle is given below :—

District.	Number of cattle in cow units.	Area in acres.	Number of acres per cow unit.
North Vellore	47,460	256,640	5·40
South do.	71,338	240,948	3·37
West do.	76,275	203,315	2·66
South Arcot	68,705	149,120	2·17
North Salem	131,214	476,800	3·63
South do.	80,419	314,880	3·91
Trichinopoly	14,504	58,240	4·01
Madura	78,822	360,960	4·50
Tinnevelly	24,155	78,080	3·23
Total ..	592,892	2,138,983	3·61

The number of cattle grazed shows a reduction on last year but there is no appreciable reduction in the incidence of grazing except in North Vellore where the reduction was due to the enhancement of grazing fees from As. 3 to As. 8 per cow unit preparatory to the introduction of the forest village system. Steps have,

however, been taken in several districts to get grazing schemes sanctioned which it is hoped will, after a time, reduce this very heavy incidence. An analysis of the cattle impounded during the year with the average of three years is given in Appendix B.

Western Circle.

79. Goats are not allowed to browse in any of the reserved forests and lands. 76·3 per cent of the total area of the reserved forests and lands were open to other animals, 10·1 per cent to all animals except sheep and goats and 13·5 per cent was closed to all animals for the whole year and ·1 per cent for part of the year.

80. *Incidence of grazing.*—This has not exceeded the possibility in *Mangalore South* and *North Malabar.* The forests are closed to grazing in *South Malabar.* In *North Mangalore* no limit is imposed upon the number of animals permitted in any given area, consistent with its possibility. It is not possible to gauge precisely the incidence of grazing in *The Nilgiris* on account of the innumerable shola forests that contain no grazing and the steep ghaut slopes which are not grazed upon.

81. *Introduction of the forest village system.*—The scheme was sanctioned for the Udumalpet range of *South Coimbatore* and for the Thadagam reserve and Mettupalaiyam range of the *Central Coimbatore* division. A scheme for the Bolampatti range in *Central Coimbatore* has been submitted to the Board. Another for the Pollachi taluk of the former division is under preparation. Proposals for the introduction of the system in *Kollegal* and *North Coimbatore* and the *two divisions of Mangalore* have been called for. The introduction of this system in *Malabar* is not necessary as the question of grazing is insignificant and in *The Nilgiris* which has its own peculiar conditions.

82. The number of cattle impounded decreased from 7,784 to 7,351 and the average for the three years ending 1917–18 was 8,371. The decrease was chiefly in *The Nilgiris* and *Kollegal* due to a larger number of cattle being licensed in the year, but it was partly counterbalanced by an increase in *South Malabar* and *South Coimbatore* due to better supervision.

(*d*) *Protection against injuries from natural causes.*

Northern Circle.

83. *Deer* generally seem to have done a good deal of damage to coppice especially in the small *Shorea* sample areas in *Ganjām* and the gray *langur* specially attacked some *Gmelina* seedlings put out near the Russellkonda reservoir.

Prickly-pear is gradually spreading in *Kurnool East* and measures will have to be taken to eradicate it.

Creepers generally have been cut back in *Ganjām* (14,080 acres) and *Gōdāvari Lower* (the area dealt with is not noted).

The 'thicket' fungus of sâl was found in *Ganjām* on *Grewia tiliæfolia*, *Terminalia tomentosa* and one or two other species Specimens were sent to Dehra. The District Forest Officer, Ganjām, has since intimated that sporophores have been found and it is possible that something may be done when its life history has been further studied.

'*Spike*' is common on *Zizyphus œnoplia* in most parts of the circle, but has not attacked the sandal wood which except perhaps on the Nallamalais seems to be of recent introduction.

The attack on teak in *Godavari Upper* noted last year as having been due to 'jassid' was caused by some other insect not identified.

Central Circle.

84. In *Bellary*, the Adoni range creeper cutting was done by the subordinates. In *Guntur*, the insect attack to casuarina growth in Nayanipalli plantations continued owing to unhealthy growth of casuarina trees owing to poor soil and the lower strata of water level. No injury was done to tree growth in other places by natural causes. In *North Cuddapah*, *Anogeissus latifolia* trees in the Nallamalais were attacked by caterpillars which defoliated trees. This was about the beginning of June but with the rains in July, the caterpillars disappeared and the damage to the trees minimized. The tender coppice shoots of red sanders were also, in some cases, attacked by a defoliating caterpillar about the same time. In *Nellore*, the chief pests are (1) loranthus on some *grewia* and other inferior species, (2) prickly-pear in coupes, (3) a weevil borer attacking both the wood and leaves of anogeissus trees. No special steps were taken to remove these pests. In *Chingleput*, climbers and creepers in the felled coupes

have been cut. *Euphorbia* from all coupes under working was cut by the contractors. Prickly-pear was, to a certain extent, removed from the felled portions of No. 1 coupes of the six special grazing working circles and the work is in progress. In *Chittoor*, an experimental eradication of lantana over an area of one acre in Horsleykonda was made as a basis for calculating the cost of operations to clear the whole reserve of the pest. One of the densest and oldest areas was selected and all the lantana was cut and then the roots grubbed out and removed from the area. The cost was about Rs. 16; but this can be reduced and the average cost, of course, will be far smaller. A detailed scheme to eradicate this pest from the reserve was submitted just after the close of the year and further instructions have been issued to the District Forest Officer by the Conservator after the latter's inspection of the same.

Great care will have to be exercised over lantana eradication if money is not to be thrown away without obtaining any satisfactory result

85. *Prickly-pear.*—No real attempt has as yet been made to get rid of this pest. In *North Vellore*, a sum of Rs. 356 was spent in clearing about 39 acres of the Palar plantations and in the Pichanur tope and Aravatla bungalow compound In *South Arcot*, Rs. 128 was spent in clearing prickly-pear over an area of 116 acres. In *South Salem*, Rs. 171 was spent in the eradication of prickly-pear in the reserves and enclosures of the sandal working circle, Chitteri range, and the work was entrusted to the Malayalis for execution. Fifty acres in Morappur coupe XV were cleared of prickly-pear at a cost of Rs 75. In *Madura*, eradication of this pest was carried out in 17 fuel coupes in Sholavandan, Nattam and Ayyalur ranges over an area of 410 acres at a cost of Rs. 1,833. *Southern Circle.*

Pyrausta machaeralis.—The teak leaf defoliators *Pyransta machaeralis* and *Hyblœa puera* noticed last year in the Banavaram reserve have been again at work this year. The attack however is not serious.

Lantana.—It is very regrettable that the destruction of lantana has not been properly undertaken in the *West Vellore* division with the result that it has been allowed to spread and there are now 3,505 acres in and around Kuttathur, 90 acres in Govindapuram and 352 acres in Pungulam reserve. Only Rs. 200 were spent in clearing 1,047 acres. More energetic work is urgently called for.

In *North Salem* also only a small area, 286 acres in Thalli reserve, was dealt with and the pest is spreading.

In *Tinnevelly*, 57 acres in the Koilteri working circle and 35 acres in Kannikatti were cleared at a cost of Rs. 207.

Spike.—This subject is treated in detail under research work. The spiked area is undoubtedly increasing in North Salem and Trichinopoly districts.

Creeper cutting.—In *Tinnevelly*, Rs. 666 were spent in creeper cutting and girdling in the sandal area in Alagarkoil valley, in coupes I and II of Kalakad working circle and in coupe I of Vadagarai-Melpidagai reserve. About Rs. 238 were spent in creeper cutting and girdling in the *Hopea* and *Balanocarpus* areas in Kodamadi and Kannikatti.

86. *Spike disease.*—With reference to the remarks in the last report on the failure to maintain the measures prescribed in *Kollegal* for the isolation of this disease, the Conservator has inspected the locality and issued fresh orders which are now being carried out. In *North Coimbatore* the disease is spreading. A scheme for working the area has lately been amended and approved by the Conservator. *Western Circle.*

Lantana is being eradicated in areas under working-plans in *North Malabar* and *North*, *Central* and *South Coimbatore* and good progress has been made.

Prickly-pear.—Regular clearing schemes are working in the coupes under working-plans. Considerable advance has been made in *Central Coimbatore*, which is due to the energetic inspection of the District Forest Officer as well as to a new system of eradication that he has instituted by which the expenditure is limited to the actual amount of work done.

Teak defoliators.—No very bad attacks occurred during the year in *South Malabar* which is ascribed to the very heavy rains in October 1917.

4. Sylviculture.

(a) *Natural reproduction.*

Northern Circle.

87. In the case both of coppice and seedlings, natural reproduction is reported to have been satisfactory specially in the case of *Shorea robusta* though in the Russellkonda and Mojjagoda ranges in *Ganjām* a severe storm in May brought down about half the crop of seed before it was ripe. *Hardwickia binata* has also seeded well this year on the Yerramalais in *Kurnool* and in other localities; though not strictly a part of the history of 1917–18, it should be noted that those trees which did not seed in about April 1918 were flowering in July and August and should thus give practically two crops in 1918. *Dendrocalamus strictus* has seeded largely in the Dharakonda reserve in *Vizagapatam* district and also in some parts of *Gōdāvari Lower*. A single specimen of *Bambusa arundinacea* was found in flower in the Sanivaram reserve in *Vizagapatam* in May (and one was also seen on the Nungambakam High Road in Madras). The red sanders (*Pterocarpus santalinus*) at Chatrapur, *Ganjām*, is reproducing itself nicely and the species is thriving in spite of the change from a hill climate and rocky soil to the plains on a sandy soil. *Avicennia* has done well in most of the delta reserves in *Kistna* except Upputeru where *Lumnitzera racemosa* has come on well. Sandal reproduction is coming on at Diguvametta in *Kurnool South* and in the bungalow plantation at Waltair, the headquarters of the circle. *Kurnool South* reports an abnormal flowering of teak in April on the Yerramalais, the usual date being in July after the south-west monsoon has broken.

Central Circle.

88. In *Bellary*, natural regeneration of *Hardwickia binata* in Jittinakatta and north-west sides of Sogi, and of *Dolichandrone crispa*, *Soymida febrifuga*, *Acacia Sundra* in Hyarada B and C blocks, Sogi and Jittinakatta reserves is successful. *Santalum album* in one of the nallas of Jajikalgutta reserve and in Jittinakatta is doing well. In Adōni range, the natural reproduction of *Dalbergia latifolia*, *Cassia fistula*, *Melia indica*, and *Acacia Sundra*, is fairly good. *Hardwickia binata* reproduces itself fairly well in Kuppagal reserve under parent trees. A large number of seedlings of *Hardwickia binata* was observed in the old worked coupes of Chiribi reserve. Young and healthy seedlings of *Acacia Sundra* were seen in Gundu reserve, and *Hardwickia binata* was seen to reproduce itself very well especially in the protected coupes of Gundu and Bandri reserves. Regeneration of *Hardwickia binata* in the Yepi block of Bellary range is good, and 93 seedlings were counted on an average plot of one chain square. The reproduction of Babul is fair in Daroji and Moka A and B blocks. Sissoo is doing well in the Moka plantation B block. In *Anantapur*, the sandal-wood trees which had established themselves in the Penukonda, Gundumala, Amagondapalaiyam, Yerracherla and Kadiri reserves are confined to favourable localities and natural regeneration is observed in Penukonda, Gundumala and Amagondapalaiyam reserves. Natural regeneration of *Acacia sundra*, *Dolichandrone crispa* and *Hardwickia binata* were observed in reserves throughout the district. Coppice reproduction in the felled coupes of Illur reserved forest continued to be satisfactory, but not so in Pamidi where they practically all died out. The species coppiced is purely Babul. In *Guntūr*, the reproduction of mada (*Avicennia officinalis*) by seed and the regeneration of Thilla (*Excœcaria agallocha*) and Kalinga (*Sonneratia Apetala*) by coppice are successful in Bapatla range. The regeneration of Nallaregu (*Albizia Amara*) by coppice in felled coupes of Tadepalli reserve is also satisfactory. The regeneration of Yepi (*Hardwickia binata*) in the upland ranges is not satisfactory as the seed yielded this year was not profuse. The reproduction of billudu (*Chloroxylon swietenia*), *Anogeissus*, etc., is fair in the felled coupes and in places not open to grazing. In *North Cuddapah*, coppice reproduction in the felled coupes has been satisfactory especially that of *Pterocarpus santalinus* and *Anogeissus latifolia*. The natural regeneration from seed suffered and mostly burnt away by the fires of 1918. In *South Cuddapah*, reproduction of red sanders and billu by seed is on the whole fair, but was as usual hampered by weeds, drought, fire and cattle. Reproduction by seed of *Shorea Tumbuggaia* in the highest slopes of the Veligondas in Chitvel range is reported to be good. Regenerаration from coppice shoots in the felled areas is excellent especially in the case of red sanders. In the Kodur and Upparapalli plantations the reproduction of sandalwood by seed is good. In *West Cuddapah*, in all the fuel and improvement coupes,

the natural reproduction of red sanders, yelama and satin wood is fair to good and the reproduction of coppice growth of red sanders, billu, neruddi, yelama is also good. In Vontimitta range, the red sanders was found to have special peculiarity of developing healthy shoots although the mother stump is hollow, deceased and unsound. In Vempalli range, the natural reproduction in Idupulapaya palmyra plantation is excellent and in some places the regeneration is prolific and thick and the reproduction of billu, Yelama and red sanders in other places is not satisfactory. Coppice shoots in felled coupes are growing vigorously. In *Nellore*, natural seedlings in the case of *Chloroxylon swietenia* under parent trees in many parts of the Veligondas are said to come up well. Seedlings of *Hardwickia binata* are reported to spring up profusely in Rapur Yerragondas and Marlapudi reserves of Rapur range. They die out in the hot season but spring up again with the rains. Coppice reproduction from *Grewia latifolia*, *Zizyphus xylophyra*, *Bauhinia racemosa* is exceedingly good in many old felled areas. Species which coppice well in the Sriharikota reserve and elsewhere on the coast are *Eugenia jambolana*, *Memecylon aungustifolium* and *Glycosmis pentaphylla*. In *Chingleput*, coppice reproduction in all the felled coupes was very good. In most of the plain forests of Chingleput range natural reproduction by seed was satisfactory. This was specially the case with reference to *Melia Indica*. In the Sathiavedu reserve of Tiruvallur range, the reproduction of *Eugenia jambolana* and in the Kambakkam reserve of *Shorea Tumbuggaia* was also good. In *Chittoor*, reproduction from seed of the better species in the Mamandur timber working circles is not satisfactory. This is probably due to too dense a cover of grass and weeds. An accidental fire in the Chittoor reserve which removed the cover of grass and *Dodonea viscosa* seems to support this view as far as *Pterocarpus santalinus* is concerned, for, though in the above ground shoots of this species were burnt back, new shoots sprung up after rain and in the absence of the cover made rapid progress, whereas in the unburnt parts alongside, the plants remained small or seeds did not germinate freely Experiments are being carried out to test this further. The following species were observed to seed abundantly during the year. *Pterocarpus santalinus*, *Santalum album*, *Anogeissus latifolia*, *Terminalia tomentosa*, *Terminalia Arjuna*, *Cassia marginata*, *Chukrassia tabularis*, *Hardwickia binata*, *Chloroxylon swietenia*. Coppice reproduction was generally satisfactory.

89. *Sandal.*—The natural reproduction of sandal is reported to be good in *North* and *South Salem* and *Trichinopoly* and particularly in the Chitteris, Pachamalais and Kollimalais and parts of Shevaroys. It was rather disappointing in the Javadis owing to a prolonged hot weather, but the fencing round sandal mother trees, the creeper cutting and the general tending operations had good effects in the natural reproduction of sandal and they would have shown excellent results but for unseasonable rains followed by a prolonged hot weather. The dying of *Storbilanthes* on the Chitteris has benefited sandal seedlings. *Southern Circle.*

Outside the regularly recognized sandal area, there is no doubt of the spread of sandal in the Mordana reserve and in the Virinjipuram and Chenur plantations of North Vellore, in Thagarai, Parigam, Kanai, Puttai and Rengappanur reserves of South Arcot and in Unjalnachi and Ulkombai forests of the Sirumalai hills of Madura.

In *North Vellore*, natural regeneration has been improved by clearing the ground under seed bearers of *Pterocarpus marsupium* and is noticeable in Rangampet North working circle, whilst *Hardwickia binata* seedlings in Ammanur and teak seedlings in the Satghur and the Pichanur tope have been raised in large quantities by similar methods. In *South Vellore*, the reproduction of *Hardwickia binata* in the Pavunjipattu reserve, of *Chloroxylon swietenia* in the Karnatighur reserve and of *Tectona grandis*, *Pterocarpus marsupium* and *Dalbergia latifolia* in the Virappanur and Patrakad reserves was satisfactory. In *West Vellore*, scattered seedlings of *Ptercarpus marsupium*, *Dalbergia latifolia*, *Anogeissus latifolia* and *Tectona grandis* are found in localities where the species are fairly represented, but all of them suffered from the prolonged hot weather. In *South Arcot*, natural reproduction of *Chloroxylon swietenia*, *Albizzia Amara* and *Acacia sundra* is good In *North Salem*, the natural regeneration by seedlings of species other than sandal was fair and that of *Hardwickia binata* especially in Dharmapuri range was good. In *South Salem*, seedlings of *Albizzia Amara*, *Chloroxylon swietenia* and *Acacia sundra* were found

in the coupes closed to grazing in Elavambadi, Kallavi and Pudur Pungani reserves whilst in parts of the hill reserves seedlings of *Pterocarpus marsupium*, *Dalbergia latifolia* and *Hardwickia binata* and other timber trees are noticeable. In *Trichinopoly*, the natural reproduction of *Dalbergia latifolia*, *Ptercarpus marsupium Anogeissus latifolia* and *Albizzia odoratissima* is not very satisfactory in the Pachamalais for want of timely rains. In *Madura*, the natural reproduction of teak in Waguthumalai is good. In *Tinnevelly*, this was a bad seed year for *Hopea parviflora*, but a very good seed year for *Balanocarpus utilis* and *Gluta Travancorica*. *Hopea* regeneration under about fifteen years old is very bad whereas the regeneration of *Balanocarpus* under almost every seed bearer is excellent. Coppice reproduction in felled coupes on the whole was good.

BAMBOOS.

In *North Vellore*, some bamboos (*Dendrocalamus strictus*) flowered sporadically in Mordana and its extension, Palamadi, Thellai, Karuthamalai, Arasampet and Ambur reserves. But the flowering was confined to few clumps only.

In *West Vellore*, bamboo (both species) has flowered sporadically here and there and is not of much consequence.

In *South Salem*, big bamboos have commenced to flower in patches on the Pachamalais and the Chitteris.

Western Circle.

90. In *North Mangalore* the flowering of bamboos has continued in the north of the division. In *South Mangalore*, sporadic flowering is reported throughout the division. The *Hopea* seed crop was a complete failure except in Puttur range and in consequence the intended sowings could not be carried out. In *South Malabar* sporadic seeding of bamboo has continued in the forests below ghauts. Seedling reproduction of the secondary timber species is reported good in *North Malabar* and the *Nilgiris*, and regeneration from coppice in the *Eucalyptus plantations* in Ootacamund and Coonoor ranges, is reported to be good except in some of the older plantations coming now under felling. Natural regeneration from seed in *Kollegal* is reported to have been destroyed by fires. There is nothing special to report in the other divisions.

(*b*) *Artificial reproduction.*

Northern Circle.

91. *Regular plantations.*—There has been no extension of the teak plantations in the Nallamalais (*Kurnool East* and *West*). They were started originally to try and reclaim the *Chenchus* for whom other work has now been found. The mulberries for silk worm breeding in *Kurnool West* have been given up, the work needing far more attention than the *Chenchus* would give it; there was also trouble with disease in the silk worms.

92. *Cultural operations.*—Sandal seed has been put out in *Ganjām*, *Vizagapatam*, *Kurnool South* and *West*. Twenty acres being sown in the last district but with poor result as the seed was mostly unsound. In *Ganjām*, it seems as if results would be satisfactory; here, in addition to the seed put out in the Gulleri reserve and in the Russellkonda reservoir area, sowings were made in five of the rest-house compounds in Pondakhol range and also in non-sal areas in that range. It has, sometimes, not been realized that sandal does not grow into a tall tree and that it is therefore no good putting in seed in fairly dense high forest where it cannot get its head free. A few *Red Sanders* have been put out in *Ganjām* in the Russellkonda reservoir area by the Vernacular Training school; they are said to be doing well at Othumadugu in *Kurnool South*. Some seed was also put out in coupe XII of Sudam felling series in *Kurnool West*.

Lumnitzera sowings in the Upputeru reserve (locality not specified) in *Kistna* were a failure owing to heavy floods.

Cassia auriculata has been sown in 3 acres in *Ganjām* (Napier Park reserve) at a cost of Rs. 3–11–8 per acre; and in 16 acres in *Vizagapatam* (Kadagandi reserve); a sum of Rs. 39 spent in *Kurnool East* on this work; *Kistna*, *South* and *West Kurnool* and the *Gōdāvaris* do not mention this item but, it is believed, a fairly large area is being dealt with in the two *Kurnools* in the Giddalur and Sivapuram ranges; in the

Gōdāvaris suitable areas are not available. Teak, rosewood, *Pterocarpus marsupium* and *Terminalia tomentosa* seed were also put out in coupe VI of the Gundlabrahmeswaram working circle in *Kurnool West* but had yet to germinate ; the result of similar work in the past should have been noted.

93. Form No. 75 shows the area under artificial reproduction. *Central Circle.*

94. *Regular plantations.*—There were no new plantations added but 752 acres were sold and excluded in *Guntūr* and *Nellore*. In *Bellary*, the moka plantation which consists chiefly of casuarina, sissoo, *Albizzia lebbek*, tamarind, *Ingadulcis* and *Melia indica* have attained a height of 15 to 35 feet and the girth ranges from 1 to 3½ feet. In *South Cuddapah*, 500 red-sanders seedlings were planted in the re-cleared area of Kodur red sanders plantation. Of these 500 seedlings 200 are surviving and the remaining 300 died and were replaced.

95. *Cultural operations.*—In *Bellary*, the experimental sowings of tangedu, *Pterocarpus santalinus* and *Hardwickia binata* over sample plots were carried out. In *Anantapur*, cultural operations for the spread of sandal were carried out in Kadiri and Amagondapalayam reserves on a small scale and at a cost of Rs. 10-2-0. Similar sowings in Kutagulla and Dokkalakonda reserves conducted last year have been a complete failure. In *Guntūr*, 350 cashew seeds were sown in Vedullapalli and Nayanapalli reserved forests and they all germinated. Twenty-six thousand palmyra seeds were also sown in Ipurpalem, Vedullapalli, Dindi, Amudalapalli, Adavuladivi parra bit II reserves and Orr's reserve by forest subordinates. In Adavuladivi parra bit II, 1,000 kunkudu (*Sapindus emarginata*) seeds were sown but they have not come out successfully owing to the saline nature of the soil. In 1916–17 coupe of Tadepalli reserve, seeds of vepa (*Melia Indica*), tamarind (*Tamarindus indica*), dirisinam (*Albizzia lebbek*) and simachinta (*Pithecolobium dulce*) were sown. About 20 per cent of them have germinated and survived after the summer season. Only those that were dibbled in bushes of scrub growth have survived. During the year 600 acres were selected in Muthayapalem and Kondavid reserved forests for sowing tangedu seeds and the operations will be undertaken during 1918–19. In *North Cuddapah*, 5,000 palmyra seeds were sown in Rāmeswaram reserve forest free of cost by the beat subordinates during the year. It is reported that their germination is fairly successful. Twenty-five per cent of the seeds have germinated. Of the seeds sown during 1916–17, 10 per cent of the seedlings are surviving and their height varies from 3 to 5 inches. Some eight measures of tangedu seeds were collected and sown in Vonipenta and Porumamilla ranges over an area of 12 acres and 3¼ acres respectively. In the former the seeds germinated during the close of the north-east monsoon but appear to have died during the last summer. In Porumamilla range the germination was not very successful. The few seedlings that came up are still existing. About 295 acres were selected for sowing the tangedu seeds during the coming season. Indigenous species, such as, *Melia Indica*, *Pongamia glabra*, mangoes, red-sanders, yepi, etc., trees were sown in range office and bungalow compounds and the results have to be watched after the rains. Sandal seeds were obtained from District Forest Officers, North Salem and Vellore, and they could not be sown for want of timely rains. In *South Cuddapah*, in Chitvel range, 3 acres of the Chitvel reserve forest were sown with 8½ seers of Tangedu seeds. In *West Cuddapah*, the collection and sowing of tangedu seeds have also been sanctioned and seeds collected. Lands have also been made ready. The seeds will be sown as soon as monsoon sets in. Several of the panchayatdars have been instructed to sow tangedu seeds in the panchayat areas for green manure leaf and also for tangedu bark. In *Nellore*, sandalwood seeds were dibbled in selected localities in all the ranges but the results have not been satisfactory so far. In *Chingleput*, 25 measures of sandal seeds in the Kambakkam plateau and 10 measures in Guindy Park reserved forest were dibbled in August 1917. This operation cannot be called a failure. In Kambakkam, there are several seedlings with an average height of about 6 inches and they are in a healthy condition. In Guindy Park, there are about 345 seedlings in a healthy condition. With a view to planting trees in the six special grazing working circles of Chingleput range in accordance with paragraph 10 of the working plan, about one thousand seedlings of different species, such as Bassia latifolia, *Mangifera indica*, *Pterocarpus marsupium*, *Polyalthia longifolia*, etc., have been raised free of cost and kept basketted and they will be transplanted in the respective

localities, as soon as the monsoon sets in. In *Chittoor*, over about 120 acres in five ranges, Cassia auriculata seeds were sown after ploughing. Unfortunately, seeds were not available in time and the sowings were not made till September and up to November. In January, the whole experiment seemed to be a failure, but the fact was that there had been insufficient rain to germinate the seeds in quantities. More seeds germinated after the rains in May, so that in some places fair results appear. Red sanders seeds were dibbled over an area of 40 acres in the Chittoor reserve and sandal seeds were dibbled over an area of about 1,400 acres in all ranges. The seeds were mostly dibbled in previously felled coupes which are fenced and closed to grazing. The practice adopted was to sow three seeds close together in thumb holes at intervals of about 20 feet, under the shelter of bushy growth. These sowings were made in May and June, but no germinations had been reported by the close of the year. This is probably due to want of rain since seeds sown in a bungalow compound and watered germinated well. Some seeds of *Hopea parviflora* were obtained from South Kanara and dibbled in the evergreen portion of the Thumburukona worked coupes. It is too soon to expect results.

Southern Circle.

96. *Regular plantations.*—The only districts in which there are regular plantations are North Vellore, Madura and Tinnevelly.

In *North Vellore*, five acres were planted at a cost of Rs. 41 and 10 acres cleared at a cost of Rs. 104 in the Amerdi plantation for planting with teak, rosewood, red sanders and sissoo. Red-sanders and *Hardwickia binata* were dibbled in coupes III and IV of Chenur working circle and planting of red-sanders and *Hardwickia binata* was done in coupe XIII of Kilminnal working circle and coupes XIV of Virinjipuram and Thiruvallam working circles.

In *Madura* no addition was made to the plantations. In the two small teak plantations of Velankombai and Vannathiparai the teak is healthy and the height growth is good. Both plantations want thinning badly and growth is very uneven. The blue gum trees in Gundan Shola plantation are doing well. Growth in the older Pine plantations at Kodaikanal is very dense and they will soon want thinning.

In *Tinnevelly* Rs. 934 were spent in the 32 acres of Kodamadi teak plantation. In Valliyur, 120 bamboo cuttings were put in but only 38 are reported to be alive. Thirty-six thousand palmyra nuts were sown in the blanks in compartments of the Teri reserve which were inadequately stocked at a cost of Rs. 26 but most of the work was done by subordinates.

97. *Taungya—North Vellore.*—The taungya plantation attempted was a failure in Amerdi owing to the lack of interest of the villagers.

South Arcot.—The number of teak plants that survived in the two acres in the Pakkam reserve is 1,292 of 3′ to 7′ in height.

Another 2 acres adjoining the last year's area has been selected, cleared and burnt. The sowing has not yet been done for want of rains. In Siruvadi reserve at the foot of the Durgamalai, a small area of about five acres was selected and sown with $\frac{3}{4}$ measure of sandal seeds, $1\frac{1}{2}$ measures of red sanders and $1\frac{1}{2}$ measures of teak. It is reported that the seeds germinated and the seedlings died in the hot weather. Similarly in Muttakadu reserve a small area of about ten acres on the eastern side of Ettumalai were sown with two measures of teak, two of red sanders and one of sandal seeds in November 1917. The results were the same, as the proper season for sowing was missed and the rains ceased after sowing.

98. *Cultural operations—South and West Vellore.*—Cultural operations as prescribed in the working-plans were carried out and sandal seeds dibbled in the special tending areas. The soil under healthy sandal mother trees was scratched and trees fenced in coupes I and II of the several series. The germination was reported to be fair after the rains but most of these were killed out in the ensuing hot weather.

North Salem.—Eleven Madras measures of sandal seeds were sown along a strip of about 880 yards long by 110 yards wide in the specially protected area on Sanniyasimalai reserve. The seeds were sown by making pits with small spades and dibbling 2 or 3 sandal seeds in each pit under bushes and shade. They were at first thriving well but owing to want of timely rain, they have since to a large extent failed.

One hundred and twenty Kanna plants (*Eleocarpus oblongus*) were replanted in compartment IV of Sanniyasimalai reserve. An area of 47½ acres in compartment 3 of Sanniyasimalai was weeded.

South Salem.—Cultural operations were undertaken in coupes II of compartments 1 and 2 of the Chitteri sandal working circle according to the provisions of the working plan. The operations consisted of the sowing of sandal seeds in an area of 113·94 acres. Fifty per cent of the seed sown germinated.

Sandal seeds were sown in 50·40 acres in the Thumbal extension reserve, in the Ponakaded area (43·20 acres) in the Periashola block, in the Harur specially protected block (101·50 acres) and in an area of 2½ acres in Pallipatti reserve. The results are far from satisfactory. Sandal and teak seeds were sown in Mallapuram reserve, Kouramalai East and West working circles and in Bothakad and Mallapuram Ghat extension reserves. Teak seeds have not germinated but sandal seedlings were found.

Trichinopoly.—In the Sholamatti reserved forest of the Perambalur range, 39 Madras measures of sandal seeds were sown in June and the results are awaited. In the Kollimalais blank areas to an extent of 120 acres were selected in the Shelur and the newly formed Ariyur shola blocks and sown with sandal. The percentage of success was small.

Tinnevelly.—During November and December about 700 Madras measures of *Balanocarpus* seeds were dibbled or sown broadcast around Kannikatti and Ullar over an area of about 35 acres at a cost of Rs. 46. Similarly about 300 acres were sown or dibbled around Kodamadi and Usipothai. But the results were poor owing to the seed being eaten by pig and mouse deer. About two measures of Gluta seeds were dibbled over an area of about 20 acres at Kannikatti at a cost of Rs. 56. The number of healthy seedlings at the end of the hot weather was large. About nine measures of sandal seeds were sown along the Mill channel in Ambasamudram range and it is reported that there are 180 seedlings.

99. *Regular plantations.*—During the year 17 acres of the older plantations in Nilambur were clear-felled and new plantations were formed at a cost of Rs. 1,411. In the 27 acres clear-felled last year regeneration was completed. The standing stock on 46½ acres of natural forests was sold for clear-felling and replanting with teak but owing to the very early monsoons, only 10 acres were ready for planting. Out of the 41 acres regenerated last year about 22 acres dibbled at stake were a failure. This year it has been planted up with teak, terminalias and other species. The regeneration of the remaining 19 acres was completed successfully at a cost of Rs. 384. In *The Nilgiris*, the experimental Eucalyptus plantations were maintained but no new planting was done. The growth of the nine species tried varies very much. In some it is excellent and thinning is already required. In the other Eucalyptus plantations blanks were filled up. *Western Circle.*

100. *Taungyas*—In *South Mangalore* owing to persistent neglect and failure on the part of the Mahratti hill tribes, taungyas have for the present been abolished. In *North Malabar* 64 acres were planted in several ranges with teak and some vengai, and on the whole with fair success. In *The Nilgiris*, the 13 acres opened last year were a failure. In the current year this area has been planted over again.

101. *Cultural operations.*—In *North Mangalore* the sowing of sandal seed was done on a large scale in the Hosabetta, Thodar and ɪanumbur reserves and has germinated satisfactorily. The Hopea sowings of the previous year are doing well. In *South Mangalore* sandal and Hopea seeds were dibbled in pits in few hundreds in several reserves. In *North Malabar*, what is known as 'patch' regeneration of teak was carried out in coupes XIX and XX of Begur, in coupe X of Chedelth, in sub-coupes *c* to *f* of coupe II of Chedelth and is reported to be thriving satisfactorily. In *South Malabar*, *Terminalia* and *Hopea* seeds were collected and sown in certain plantations in the Nilambur and Amarampalem ranges. In *Kollegal* Rs. 90 was spent in dibbling 60 seers of sandal seeds in coupe XIV of Hanur. In *South Coimbatore* two regeneration plots of 5 acres of each were opened in coupes XI and XIII of Punachi and the old regeneration areas at Mount Stuart and Punachi were weeded.

In addition to the above, large estimates for the sowing of avaram seeds in reserves of *North Coimbatore* and *Kollegal* were sanctioned. The operations will commence with the present monsoon.

(c) Operations for improvement of the growing stock.

Northern Circle.

102. Creepers were cut in all districts except *Gōdāvari Upper*, *Kurnool East* and *South*. In *Ganjām*, the subordinates worked over 14,080 acres of Sal forest free of cost—a very satisfactory bit of work. In other districts the areas dealt with are not reported; *Kurnool West* reports an expenditure of Rs. 225.

In *Kurnool West*, growth detrimental to sandal plants was cut on an area of 600 acres in Pecheruvu range.

Central Circle.

103. *Timber improvement fellings.*—In *North Cuddapah*, 2, 214 acres; *South Cuddapah*, 1,740 acres; *West Cuddapah*, 1,509 acres; and in *Chittoor*, 135 acres were felled over in accordance with the working plans. *Coppice felling* continued to be carried out in all districts of the circle for supply of firewood. *Fencing*—of all felled coupes was as usual carried out by contractors. In *Nellore and Chingleput*, felled coupes were fenced with trench and mound departmentally the latter being planted with aloes, where the outer coupe boundaries coincided with the reserve boundary itself. *Cutting of creepers and climbers* was carried out in all the districts except *Bellary*, *Chingleput and Chittoor*. *Stone-walling* was done in *Anantapur*, *North Cuddapah*, and in *South Cuddapah* at a cost of Rs. 7,139. *Bunding of streams.*—The attention of all District Forest Officers was specially drawn to the necessity of bunding streams in accordance with the Board's Forest Reference No. 1266/18–1, dated 30th May 1918.

Southern Circle.

104. The cutting of creepers affecting standards and other useful trees was carried out by subordinates in most districts and felled coupes were fenced. In *South Salem*, tending operations were undertaken in coupe II (2,200 acres) of compartments 1 and 2 of Chitteri sandalwood working-circle at a cost of Rs. 206.

Western Circle.

105. Light improvement fellings in favour of Hopea and sandal, were carried out in 1,050 acres in *North Mangalore*, and over 2,062 acres in *South Mangalore*. Thinnings in teak plantations in *North Malabar* realized nearly Rs. 600; weedings of patch regeneration of teak were carried out in last year's coupes. In *South Malabar* all the teak plantations were thinned according to plan. Parasites were removed over 248 acres. Improvement fellings were carried out over 1,080 acres in compartment VII, Mudumalai. A working scheme for creeper cutting and tending of sandal in the *North Coimbatore* forests has lately been sanctioned. Cleanings and weeding in favour of teak, rosewood and vengai were carried out over 743 acres in several compartments of Punachi working circle of South Coimbatore.

5. Exploitation.

(a) System of management.

(i) Major Forest Produce.

Northern Circle.

106. The total area of reserved forests covered by working plans was 2,630 square miles. The various sylvicultural systems in force over this area are shown below:—

Sylvicultural system.	Area in square miles.	Percentage.
(1) Clear felling	92	3·50
(2) Selection fellings	280	10·65
(3) Simple coppice	373	14·18
(4) Coppice with standards	124	4·71
(5) Improvement fellings	337	12·81
(6) Forests for which working plans have been prepared but not subjected to any definite system of working	1,424	54·15
Total ...	2,630	100·00

These figures have been compiled from district returns.

(1) *Clear or regeneration fellings.*

107. Thirty-eight acres of compartment 8 of Kandikuppa plantation in *Gōdāvari Lower*, 1,230 acres in Upputeru reserved forest in *Kistna*, Katakanapalli tank (area not reported) in *Kurnool East*, and 209 acres consisting of fire lines in Chelama and Giddalur ranges in *Kurnool South* were clear felled.

(2) *Selection fellings.*

108. *Ganjām.*—Twenty sāl trees of over 7½ feet in girth in Rambha and 101 trees in Chandragiri reserved forests were felled. *Gōdāvari Upper.*—776 trees over 3 feet in girth were extracted from the unreserved lands of Marrigudem range. *Kurnool East.*—200 palmyras from Chinaganapalli reserved forest were removed. *Kurnool South.*—215 palmyras were removed in Owk and Giddalur ranges. *Kurnool West.*—Dead and fallen trees which yielded 1,658 cubic feet were removed from the hill forests. The area dealt with is not noted.

(3) *Simple coppice.*

109. Sixteen coupes were worked in *Ganjām* covering 11,187 acres, 11 coupes with an extent of 2,710 acres in *Gōdāvari Lower* and seven coupes of 846 acres in *Kistna*.

(4) *Coppice with standards.*

110. Sixteen fuel coupes covering 450 acres in *Vizagapatam*, five in each of *Gōdāvari Lower* and *Kistna* (1,212 and 710 acres respectively), one in *Kurnool East* (area not reported) and three (294 acres) in *Kurnool West* were coppiced.

(5) *Improvement fellings.*

111. *Ganjām.*—One thousand eight hundred and eighty-one sâl and 722 trees of other species were removed. *Vizagapatam.*—The wind-fallen and top-broken sâl trees were extracted from three reserved forests. *Gōdāvari Lower.*—Dead wood which yielded 5,562 cubic feet of fuel was collected from compartments 9 to 14 of Kandikuppa plantation; compartment 9 was also thinned. *Kurnool South.*—Overmature trees were felled from the timber coupes covering an area of 7,337 acres and the grazing areas (2,022 acres) were 'thinned to improve the grazing possibility.' *Kurnool West.*—797 acres in the timber coupes of Gundlabrahmeswaram, Nallamalai Terai and Pattikonda working circles were worked over. In *Kurnool East*, dead, dying and unsound trees were removed in four ranges.

(6) *Unregulated fellings.*

112. These fellings were confined to the unreserved lands in all divisions including the Rampa forests, except in the case of Coringa extension in *Gōdāvari Lower* for supply of fuel required by the Cocanada Port Conservancy Board, and the removal of bamboos from the reserved forests of Bhadrāchalam and Nugur taluks in *Gōdāvari Upper*, and of palmyra trees in *Kurnool West.*

113. The total extent under working plan was 1,100 square miles and the various sylvicultural systems in force are shown below :— ***Central Circle***

Sylvicultural system.	Square miles.	Percentage of total area under each sylvicultural system.
(1) Method of clear felling by compartment	9	0·82
(2) Simple coppice	1	0·09
(3) Coppice with standards	319	29·00
(4) Method of improvement fellings	287	26·09
(5) Area closed to felling or worked under no definite sylvicultural system	484	44·00
Total ...	1,100	100·00

Southern Circle.

114. The total area of forests under working plans was 2,932 square miles. The various sylvicultural systems in force over this are shown in the following table :—

Sylvicultural system.	Area in square miles.	Per cent.
Clear fellings	13	·45
Simple coppice	304	10·37
Selection felling	404	13·78
Improvement felling	468	15·96
Coppice with standards	1,149	39·18
Pastoral methods	106	3·62
Forests for which working plans have been prepared but not subjected to any definite working	488	16·64
Total ...	2,932	100·00

(1) *Clear or regeneration fellings and* (2) *Simple coppice.*

115. The growth in 11 square miles of reserves was clear felled in South Arcot and in 7 square miles in Trichinopoly. Seven fuel coupes in South Vellore and 14 in South Salem were worked under simple coppice. In Madura, the simple coppice system was enforced in Sholavandan, Nattam and Ayyalur ranges as per prescriptions of the working-plan and also in Kodaikānal and Palni ranges.

(3) *Selection fellings.*

116. The area shown under this head relates chiefly to bamboos. Selected sandalwood trees dead and dying on the Pachamalais and Kollimalais of Trichinopoly district were enumerated and felled under this system.

(4) *and* (5) *Improvement and Coppice fellings.*

117. *Improvement fellings.*—Twenty-nine sandal coupes in South Vellore, 31 sandal coupes in West Vellore, 7 sandal coupes in South Salem, and coupe 1 in each of the felling series under the Hosur sandalwood working-plan were worked under this system. Three coupes of the Palar riverside plantations were also worked under a system of improvement fellings.

Coppice under standard system.—The following coupes were worked under coppice with standards :—

9 fuel coupes of 1,006 acres in North Vellore,
18 fuel coupes of 1,316 acres in South Vellore,
13 fuel coupes of 667 acres in West Vellore,
4 fuel coupes of 253·70 acres in South Arcot,
Coupes in 8 felling series of 1,690 acres in North Salem,
2 fuel coupes of 312 acres in South Salem,
5 fuel coupes of 265 acres in Trichinopoly,
5 fuel coupes of 241 acres in Madura, and
13 ghat forest coupes, 3 plain forest coupes and 14 tank-bed coupes in Tinnevelly.

(6) *Unregulated fellings.*

118. Unregulated fellings under the permit system were confined to unreserves under the management of the Revenue Department. In Cumbum and Palni ranges of Madura district, selected marked timber trees were cut and removed on permits from reserves on payment of seigniorage fees for domestic requirements.

(*a*) *System of Management.*

Western Circle.

119. *Sylvicultural system*—

	Area in square miles.	Percentage of total area under each sylvicultural system.
Method of clear fellings by compartments	16	·86
Selection method	332	17·75
Simple coppice	12	·64
Coppice with standards	215	11·50
Method of improvement fellings	132	7·06
Unregulated fellings	9	·48
Forests for which working plans have been prepared but not subjected to any definite system of working ...	1,154	61·71
Total ...	1,870	100·00

(1) *Clear or regeneration fellings.*

120. In *South Malabar* 46·50 acres in the new Amarampalam reserve were clear felled for the formation of teak plantation; the amount realized was Rs. 4,024. Three teak plantations in Nilambur (70 acres) were clear-felled departmentally at a cost of Rs. 2,453.

(2) *Selection fellings.*

121. *Mangalore North.*—An area of 91·50 acres in coupe II of Madibare Timber Working Circle was felled. *Mangalore South.*—In Kadambilla coupe X over an area of 827 acres, 10,751 c.ft. of timber were extracted. The extraction of overmature trees in compartment I of Jalsur east block continued and 11,922 c.ft. of timber valued Rs. 2,363 were worked during the year. A strip of 40 acres in Nerankimale coupe III was thinned as high forest departmentally, the outturn being over 450 chowks of fuel and about 2,800 c.ft. of timber. *North Malabar.*—356 acres in coupe II of Chedleth and 305 acres in coupe XX of Begur, were felled. *South Malabar.*—At the close of the year the fellings over an area of 280 acres in the natural forests of Karimpoya reserve, were commenced in anticipation of the new working plan, to meet urgent demands. *Kollegal.*—'Spiked' and dead sandal trees were removed from Bailur coupes I, II and X and Madeswaramalai coupes VII to IX and the total yield was about 80 tons. *North Coimbatore.*—From three coupes of Talamalai and five of Bargur, 19,941 sandal trees yielding 289 tons of rough sandalwood were extracted. *South Coimbatore.*—Selection felling in coupe XI of Punachi Working Circle was sold to a contractor. From the Tekkadi leased forests 10,720 cubic feet of timber were felled to meet an urgent demand from the Military Department.

(3) *Simple coppice.*

122. *Mangalore North.*—An experimental coupe of 2½ acres was opened and worked for fuel. *South Malabar.*—In Karimpoya teak plantations, 1910 and 1911, 2,850 saplings damaged by wild elephants had to be coppiced. In *The Nilgiris* about 73 acres of eucalyptus and acacia plantations were felled for the supply of firewood.

(4) *Coppice with standards.*

123. An area of 568 acres in *Mangalore North* and two sample plots of 16 acres in Narimogar and Kalanjimale reserves in *South Mangalore*, were coppiced; Muliyar coupe IV in the latter division was sold in three strips to a contractor. Five coupes (574 acres) in *Kollegal*, four coupes (282 acres) in *North Coimbatore*, twenty coupes (1,882 acres) in *Central Coimbatore* and seven coupes (322 acres) in *South Coimbatore*, were worked during the year.

(5) *Improvement fellings.*

124. *Mangalore North.*—Coupe I of Pilarkan and the Kiralbogi area in Jarvattu (total 126 acres) were worked for fuel. *Mangalore South.*—667 logs of 8,740 c.ft. of timber were felled from Parappa reserve. *South Malabar.*—Thinnings were carried out in the teak plantations of two ranges and 67,848 teak logs and saplings and 2,174 miscellaneous species were extracted. *The Nilgiris.*—Fifty acres in compartment 4 and the whole of compartment 7 (1,080 acres) of Mudumalai working circles were worked over, total yield being 28,957 c.ft. of teak and 9,884 c.ft. of other species. Six acres in compartment 3 of Muthinad, the unworked portion of compartment 1 in Newman, were worked and the yield was 47,900 c.ft., of which 8,200 c.ft. were used for charcoal manufacture. Seven acres of Benne teak plantation were marked for thinning and the yield was 500 poles. *Central Coimbatore.*—Felling in Jakkanari coupes 1-*a* and *b* (640 acres) was commenced but not completed during the year.

(6) *Unregulated fellings.*

125. *Mangalore North.*—Firewood required for 110 cinnamon oil stills and for manufacturing 15 tons of catechu, was removed from unreserved lands. Timber also was removed from the unreserves on payment of seigniorage, only for domestic and agricultural purposes. *Mangalore South.*—Dead and windblown trees (about 3,200 c.ft.) were sold from reserves in the closed working circle. *South Malabar.*—Three irul (*Xylia*) and 21 karimarudu (*Terminalia*), trees yielding 865 c.ft. were sold from the natural forests for Rs. 856. *The Nilgiris.*—About 2 acres in the Nilgiri Eastern slopes reserve were worked for firewood for a special supply. Four and a half tons of sandalwood were extracted from the unreserved lands in Sigur.

Small timber and firewood were as usual removed on permits. Dead trees in the sholas were converted into fuel and supplied to the adjoining estates. The Badagas continued to remove fuel from sholas on annual permits at Re. 1 per household. *North Coimbatore.*—70,790 c. ft. of timber and 33,905 c.ft. of fuel were removed from unreserves through the agency of the Revenue Department.

(ii) MINOR FOREST PRODUCE.

(1) *Bamboos.*

Northern Circle. 126. The right to collect bamboos was generally leased out. The extraction from the Rampa forests in *Gōdāvari Lower* was regulated by permits. Areas were set apart in *Kurnool East* and *West* to provide employment for the *Chenchus.* They felled bamboos and prepared splits and were paid for by the department. The right to purchase the outturn at fixed rates was leased out.

(2) *Miscellaneous produce.*

127. Minor products of importance were leased out except in *Gōdāvari Upper* and in the Nallamalai forests in *Kurnool East* and *West.* The system of collecting the produce departmentally from the reserved forests and unreserved lands was introduced for the first time in *Gōdāvari Upper.* The Collector states that the system is not without disadvantages and that he has had complaints about it. The collection on the Nallamalais was made through the agency of the *Chenchus.* The right to collect tanning barks during 1917–18 was generally leased out. As regards their exploitation from the year 1918–19, it was arranged with the Indian Munitions Board that it should take complete control of the collection, sale and distribution of tanning stuffs and guarantee the Forest Department an annual payment equal to the average of its receipts for the five years immediately preceding the war. This arrangement was brought into force at the close of the year and will entail considerable loss on *this* department.

(3) *Extraction of fodder grass.*

128. There was no demand for cut fodder in *Gōdāvari Upper.* The collection of fodder and thatch grass in Coringa and Kandikuppa forests in *Gōdāvari Lower* and from closed areas in *Kistna* and fodder leaves from the mangrove forests in the latter division was leased out. Fodder grass valued at Rs. 100 was removed on permits in *Kurnool South.*

Free removal of fodder grass.—The concession was not allowed in *Ganjām* and *Gōdāvari Upper* where there was no necessity and was withdrawn in *Kistna.* It was allowed in the other districts and availed of without abuse. In *Kurnool East* and *West* the concession was withdrawn from villagers who failed to render services in connection with extinguishing fires.

(4) *Hay-making.*

129. In the three *Kurnools*, the Military Grass Farms department collected and manufactured hay paying the Forest department a royalty of Rs. 2 per ton. The outturn was about 5,686 tons.

(5) *Grazing.*

130. Grazing was as usual controlled by issue of permits. The revenue derived from grazing, fodder grass and hay was Rs. 1,11,215.

(1) *Miscellaneous produce.*

Central Circle. 131. Minor produce was leased out to contractors as usual in all the districts except in the Srīharikōta range of *Nellore* district where for local reasons the produce continued to be collected and sold departmentally. The rate of seigniorage on manure leaves removed from forests has been increased to 2 annas per head load and Rs. 2 per cart load in *Bellary*, *Anantapur*, *Cuddapah* and *Chittoor* districts, in B.P. Forest No. 12, dated 9th April 1918. Permits continued to be issued for stone, earth and road materials. The control of tanning barks had been transferred to the Controller of Tanning Stuffs at the close of the year. Even the collection of some of the minor forest produce such as bees-wax already included in minor forest produce lease is to be undertaken by the department as per recent orders of the Board.

(2) *Extraction of fodder.*

132. The Military Grass Farms department has extended its operations in *Bellary*, portion of *Anantapur*, *North Cuddapah*, *West Cuddapah* and *Chittoor* at Rs. 2 per ton of made hay.

In *Bellary*, Mr. Howes cut and removed 800 tons. In *Guntūr*, the fodder grass in the babul areas was leased out. In *Nellore* and *Chingleput* the privilege of free removal of fodder grass from areas closed to grazing was allowed to the lessees of adjoining kanchas who undertook in return the protection of the closed areas. In *Chingleput*, it is reported that the privilege was availed of willingly wherever it was appreciated.

(3) *Free removal of grass.*

133. The free removal of grass was allowed as usual in all districts except Chingleput and areas under cultural operations. The concession was withdrawn in a portion of the Lankamalais, *North Cuddapah* district, and in some ranges of *Nellore* district as a punishment for not assisting in putting out fires.

(4) *Hay-making.*

134. Departmental hay operations were urgently undertaken during the year from November 1917 with reference to Board's Forest Reference No. 2511/17-1, dated 19th October 1917, in *Anantapur*, *Guntūr*, *North Cuddapah*, *South Cuddapah*, *West Cuddapah* and *Chittoor* districts. The supply from *Guntūr* was under the control of Mr. Clear on special duty. Four thousand six hundred and three tons were collected in the circle and 2,235 tons were actually supplied to the Military Department at Rs. 30 per ton. At the time this call for hay came upon the Department there were actually no departmental operations in hay-making being conducted in the circle. All such operations had been abandoned and all presses sold. Everything therefore had to be improvised from the very beginning again. Only those who have had experience of what this means can have any idea of the extra amount of work thrown upon the small forest staff which however did its best in the matter in spite of many difficulties.

It is understood that the operation is again to be undertaken in November 1918 as a war work.

In this connexion the Conservator desires to impress upon the Board the enormous amount of extra work these operations have thrust upon the department at a time when the departmental staff was totally inadequate even to carry out its ordinary duties. They have caused much sickness through overwork, they have dislocated the forest work in every district in which they have been undertaken. They were improvised as a war measure and the department has done its best and this circle alone has turned out between 4,000 to 5,000 tons of hay since operations were started, but the Conservator does not think these operations should be continued for *a single day longer* than they are absolutely necessary as a war measure. Of course *if* they are necessary the department will strive to do its best, but the Conservator fears it is difficult for the Board to realize the very great strain indeed which such operations have placed and will continue to place on the department's organization which it is not in a favourable position to bear.

(5) *Grazing.*

135. The revenue realized during the year was Rs. 3,46,692 against Rs. 3,12,331 of the previous year.

There was increase in the following districts :—

In *Guntūr*, due to panchayat fees and special permits issued for grazing in January and February at 4 annas per cow unit. In *Nellore*, due to favourable rates at kancha sales and the collection of about Rs. 9,000 of 1918–19 during the year under report. In *Chinglepet*, due to the introduction of the kancha system. In *Chittoor*, due to enhancement of grazing fees.

During the year, an Extra Assistant Conservator was specially posted to Nellore to further popularize the kancha system, and to conduct the sales of the 'kanchas.'

(1) *Miscellaneous produce.*

136. Minor forest produce was as a rule leased out. The issue of permits for leaves for manure has been stopped in all districts except in North and West Vellore and Tinnevelly. ***Southern Circle.***

In *North Vellore*, the produce in Synagunta and Mordana reserves was departmentally collected to ensure protection of the reserves for sylvicultural reasons and the collection of manure leaf was permitted under the Conservator's advice by head loads only and it was confined to creepers, shrubs and weeds in all reserves except where the average removal was less than 100 cart-loads.

In *West Vellore*, permits were issued for the removal of manure leaves in the Chengam range for about five months, after which the removal of the produce was stopped with reference to the Board's orders.

(2) *Collection of tan stuffs.*

137. As per orders of the Controller of Tanning Stuffs, the leases for collecting avaram bark were closed one month earlier and fresh leases given till 30th June 1919 to the same contractors in some cases at two-thirds of the annual rental paid by them in the previous year. In cases in which the work of the old contractors was unsatisfactory, the leases were given to approved contractors on the conditions imposed by the Controller.

In *North Vellore*, an area of 500 acres in the Karuthamalai reserve has been set apart for exploitation of *Anogeissus latifolia* (bark and leaves).

In *South Vellore*, departmental collection of the undermentioned tan stuffs was made during the year and supplied to the various firms at Madras and elsewhere :—

	T.	Q.	LB.
(1) Anogeissus Shumac, rosy	0	78	25
(2) Do. mixed green and rosy	0	27	24
(3) Do. green	11	32	10
(4) Do. bark	21	20	21
(5) Ziyphus Xylopyra fruits	3	37	12
(6) Bark of Rhus Mysorensis	0	46	3
(7) Bark of Phyllanthus Polyphyllus	0	4	10
(8) Carissa Spinarum powdered leaves	0	35	18
(9) Carissa Carandas do.	2	0	0

In *West Vellore*, a departmental collection of 1,090 quarters of Anogeissus bark was made at a cost of Rs. 112.

The collection of avaram seeds was undertaken in all the districts of the circle and nearly 20,000 Madras measures were in stock at the end of the year.

(3) *Extraction of fodder.*

138. Free removal of grass was allowed in North and South Vellore and South Arcot. In North Salem, the grass in 26 closed coupes and one specially protected block was sold for Rs. 213-8-0. In West Vellore, South Salem and Trichinopoly, free removal of grass was not permitted. In Madura, the removal of hariali grass from Bryant Park reserve in Kodaikānal range was allowed as usual on permits. In Tinnevelly, grass was included in the minor forest produce lease.

(4) *Hay-making.*

139. In North Vellore, grass was leased out to the Military Department on payment of a royalty of Rs. 2 per ton of hay removed and Rs. 971 was realized as against Rs. 741 in the previous year.

The departmental collection of hay was undertaken in North and South Salem for supply to the Military Department. The quantity collected in North Salem (15,326 cubic feet) was sold to the Hosur Remount Depot while that collected in South Salem (310 tons) was supplied to the Military grass farms, Bangalore.

(5) *Grazing.*

140. The revenue derived from grazing was Rs. 1,94,541 against Rs. 1,68,563 in the previous year.

(1) *Bamboos.*

Western Circle. 141. Seven bamboo coupes covering an area of 265 acres in *Mangalore North*, six coupes (area not reported) in *Mangalore South*, thirteen coupes of 28,452 acres in *North Coimbatore*, twelve coupes of 1,808 acres in *Central Coimbatore* and ten coupes (4,476 acres) in *South Coimbatore* were leased out. Removals on permits were allowed in *Mangalore North*, *North* and *South Malabar* and the *Nilgiris* to meet local demands. Bamboos were also extracted departmentally in both the divisions of *Mangalore* and *Malabar* for rafting and floating timber.

(2) *Miscellaneous produce.*

142. Minor produce of importance was generally leased out on lump sum contracts except in Mudumalai and Tunacadavu ranges of the *Nilgiris* and *South Coimbatore* divisions respectively. Manufacture of catechu in *Mangalore North* was done departmentally. *The Nilgiris* and *Kollegal*—Collection of konnai (*Cassia fistula*) bark was leased out; besides this produce, avaram (*Cassia auriculata*) and gallnuts were also leased out in *South Coimbatore* to meet urgent demand for tanning materials.

(3) *Extraction of fodder grass.*

143. Fodder grass was removed on permits in *Kollegal*, *North* and *South Coimbatores* and in certain parts of the *Nilgiris*. The removal of grass from three ranges in *Central Coimbatore* and from Keti plantation of the *Nilgiris* was leased out during the year. Free removal of thatch grass was allowed from the reserves in the *Mangalore* divisions and by the Todas in the *Nilgiris*.

(4) *Hay-making.*

144. Hay operations on an extensive scale were carried out in both the *Mangalore* divisions to meet urgent demands from the Military Department; and 598 tons of baled hay was despatched to the Bangalore grass farms. There was much wastage due to early rains and to the shortage of railway wagons.

(5) *Grazing.*

145. Grazing was as usual regulated by issue of permits except in *South Malabar* where the forest is closed to grazing and in the areas handed over to the management of forest panchayats. Goat browsing was entirely prohibited. There was an increase in the number of cattle licensed to grazing in *North Coimbatore*, due to the adoption of the normal rate during the year instead of the double rates levied in the previous year. But there was a great fall in *Central Coimbatore* and *North Malabar*; the reason for this in the former being that most of the Thadagam cattle were taken for grazing in the Malabar forests as soon as the villagers heard of the introduction of the higher grazing rates; and in the latter to the limiting of the issue of permits to the possibility fixed in each case.

The revenue derived from grazing and fodder grass was Rs. 87,019 against Rs. 1,00,575 in the previous year.

(*b*) *Agency of exploitation.*

(i) DEPARTMENTAL AGENCY.

146. *Major produce.*—Only 4 per cent of the total outturn was exploited by this agency. The important works carried out were:— *Ganjām.*—Selection fellings and supply of sleepers to the Munitions Board. *Vizagapatam.*—Extraction of dead sāl trees. *Gōdāvari Upper.*—Felling of trees from unreserved lands in Marrigudem range and supply of fuel to the Public Works Department for steam launches. *Gōdāvari Lower.*—Clear felling, thinning and removal of dead wood in Kandikuppa plantation. *Kurnool East.*—Removal of dead and overmature timber by the *Chenchus*. *Kurnool West.*—Improvement fellings in Honkaram coupe IX and in Pangidi coupe XII and selection fellings in Gundlabrahmeswaram working circle. ***Northern Circle.***

Minor produce.—The particulars are detailed in paragraphs 126 and 127.

147. *Disposal of produce at the edge of the forests.*—The outturn of fuel from Kandikuppa plantation in *Gōdāvari Lower* was sold in the plantation and the timber and fuel collected departmentally in *Kurnool West* were auctioned in convenient lots. In *Kurnool South*, timber and fuel were disposed of in coupes except in cases where there was no local demand.

(ii) BY PURCHASERS.

148. *Major produce.*—The sāl and other miscellaneous trees under improvement fellings in *Ganjām* were sold standing. Five timber coupes in *Kurnool South*, sixteen fuel coupes in each of *Ganjām*, *Vizagapatam* and *Gōdāvari Lower*, twelve in *Kistna*, one in *Kurnool East*, three in *Kurnool West* and the thinning of grazing areas and clear felling of 209 acres of fire lines in *Kurnool South* were worked through the agency of contractors.

Minor produce.—The extraction of bamboos and collection of minor produce is detailed in paragraphs 126 to 130.

(iii) & (iv) BY RIGHT HOLDERS, AND UNDER PRIVILEGES AND FREE GRANT.

149. The quantity and estimated value of produce removed by right holders and free grantees are given in the following abstract.

Agency.	Timber.		Fuel.		Bamboos.	Grazing.	Minor produce.	Total.
	In thousands of cubic feet.	Value.	In thousands of cubic feet.	Value.	Value.	Value.	Value.	Value.
		RS.		RS.	RS.	RS.	RS.	RS.
Right holders	76	5,418	581	5,868	705	1,204	23,571	36,766
Free grantees	42	8,106	..	..	1,570	14,986	264	24,926
Total ..	118	13,524	581	5,868	2,275	16,190	23,835	61,692

The rights are exercised in *Ganjām* and *Kurnool West* and the value of produce enjoyed by right holders increased from Rs. 35,662 to Rs. 36,766. The free grants made were chiefly for re-building houses destroyed by fire or floods and free grazing was also allowed to the hill tribes in *Ganjām*, *Vizagapatam* and the *Gōdāvaris*. The estimated value of grants was Rs. 24,926 against Rs. 29,221 in the previous year.

(i) DEPARTMENTAL AGENCY.

Central Circle.

150. Except hay-making and collection of *Anogeissus* bark no other departmental operation was undertaken. Eightyfive *Hardwickia binata* billets weighing 1 ton 110 lb. were cut in *Guntūr* and 60 red sanders billets weighing ½ a ton in *South Cuddapah* and they were supplied to Deputy Controller of Timber Supplies, Bombay.

The increase under timber is chiefly due to large quantity of timber obtained in cutting the common boundary line between Kudligi and Hospet ranges in *Bellary*, and to collection of timber from dismantled Suryalanka bungalow in *Guntūr*, and to timbers felled for departmental buildings.

Fuel was got by cutting coupe strip lines and kancha lines. The increase under bamboos was due to a larger quantity collected for departmental buildings. The increase under minor produce was due mainly to supply of hay to the Military Department.

(ii) BY PURCHASERS.

151. *Timber.*—The increase is due to larger number of trees sold on darkhast lands in *Guntur*, *North Cuddapah*, *Nellore and Chingleput* and to the fact that the contractors of 1916–17 who were not able to exploit the coupes in that year were allowed to continue their operations during the year in *South Cuddapah.*

Fuel.—The increase is due to increased number of coupes sold and to the increased outturn in *Bellary*, *Guntūr* and *Chingleput* and to coupe contractors of 1916–17 having been allowed to exploit the balance area during the year in South Cuddapah and to better results in working the Srīharikōta coupe.

Bamboos.—The fall is chiefly in *Chittoor* due to several coupes remaining unsold and to some not being fully worked.

Minor produce including grazing.—The fall is due to less amount realized on the sale of Rela bark in *Anantapur*.

(iii) RIGHTS AND PRIVILEGES.

152. Free removal of grass appears in paragraph 133 supra.

In *North Cuddapah*, under B. P. Forest Mis. No. 744, dated 1st December 1914, the villagers of Chennupalli and Gopavarampalli were allowed the privileges of grazing 150 cows and bulls and 400 sheep at one anna and six pies respectively. The Collector, taking into consideration their poverty, has allowed the Muhammadan wood-cutters of Cuddapah and Sidhout ranges the privilege of grazing 188 bulls at As. 1–6 per head.

The concession of free grazing of 190 buffaloes, 45 cows and 850 sheep of Jangalapalli and Velugapalli villages over an area of 810 acres in Lankamalais reserved forest was allowed during the year. In *South Cuddapah*, free grazing of 765 cows and bulls was allowed to the ryots of Settigunta and its hamlets according to the terms of the Forest Settlement. In *West Cuddapah*, the privilege of grazing 200 cows at As. 1-6 per cow was allowed in Sidhout-Palakondas as per B.P. Forest No. 376, dated 22nd June 1895.

(iv) Free Grants.

153. The statement appended below shows the details of free grants which were made chiefly for rebuilding houses destroyed by fire and flood. In *Nellore*, grants were made for building huts in criminal settlement. Road materials were removed in Chittoor by public bodies for public works. The instructions issued in B.P. Forest Nos. 65, dated 25th May 1917 and 105, dated 28th November 1917, are strictly observed.

—	Timber.		Fuel.		Bamboos.		Grass and grazing.	Other minor produce.	Total value.
	Cubic feet (in thousands).	Value.	Cubic feet.	Value.	Number.	Value.	Value.	Value.	
		RS.				RS.	RS.	RS.	RS.
Right-holders ..	..	..	..	..	..	..	143	..	143
Free-grantees ..	46	5,835	..	..	12,760	125	174	567	6,701
Total ..	46	5,835	..	..	12,760	125	317	567	6,844

(i) Departmental Agency.

154. The work done by departmental agency was chiefly confined to extraction of sandalwood, and represents only 1·1 per cent of the total outturn. *Southern Circle.*

(ii) By Purchasers.

155. There has been an increase in the removal of fuel and minor produce and decrease in that of timber and bamboos.

Timber (— 40,000 cubic feet).—This is always a variable head depending chiefly on the revenue derived from the sale of trees on darkhast lands.

Firewood (+ 856,000 cubic feet).—The increase is due to the sale of lands and growth in the South Arcot and Trichinopoly districts

Bamboos (— 6,293).—The decrease is more a matter of adjustment of lease amounts than an actual deficit.

Grazing and minor produce (+ 80,996).—The increase was chiefly due to the enhancement of grazing fees, and to the sale of avaram and konnai bark.

(iii) Rights and Privileges.

156. In North Vellore, grazing at the ordinary rates was allowed to the Malayalis in anticipation of the introduction of the forest village system. In the Javadis of South and West Vellore, the system of free grazing and fire rewards to the Malayalis in return for the protection of forests assigned to them for grazing has been enforced and has been working satisfactorily. The following rights admitted at settlement in Trichinopoly are reported to have been enjoyed, but the outturn corresponding to them has not been brought to account in Forms Nos. 74 and 77.

(1) Free grazing in respect of 38 pattas at the rate of 3 cattle per acre and free removal of thatch grass in respect of 40 pattas at the rate of 40 heads each annually in Palamalai and V. Kanapadi extensions in Musiri range.

(2) Free grazing and free removal of dead wood by the Malayalis of Gundūr nad of Nāmakkal range.

(iv) Free Grants.

157. The estimated value of free grants was Rs. 4,834 against Rs. 19,383 in the previous year. In the previous year, there were unusually large applications for timber in South Arcot for rebuilding houses and huts damaged and destroyed by cyclone.

The quantity and estimated value of produce removed by right-holders and free-grantees are shown in the following abstract :—

—	Timber.		Fuel.		Bamboos.	Grass and grazing.	Other minor forest produce.	Total.
	1,000 c.ft.	Value.	1,000 c.ft.	Value.	Value.	Value.	Value.	Value.
		RS.		RS.	RS.	RS.	RS.	RS.
Right-holders	..	..	..	..	..	1,007	2,899	3,906
Free-grantees	24	3,640	3	99	290	780	75	4,884
Grants at reduced rates ..	..	..	..	..	..	..	..	..
Total ..	24	3,640	3	99	290	1,787	2,974	8,790

In Madura, 58 cart-loads of rough stone were taken from the reserves and 29,974 cart-loads from the unreserves free of charge by the Local Fund Board.

(i) Departmental Agency.

Western Circle.

158. *Major produce—Mangalore North.*—Felling one timber and one fuel coupes for want of contractors ; light improvement fellings also. *Mangalore South.*—Selection fellings in Kadambilla coupe X ; improvement fellings in Parappa compartment II and Nerankimale coupe III and the felling of two sample plots in Narimogar and Kalinjimale reserves. *North Malabar.*—Felling 79,962 cubic feet of timber in sub-coupes D, E and F of coupe II, Chedleth. *South Malabar.*—Clear felling and thinning in teak plantations, and rafting and floating logs and saplings to sale depot ; also conversion of teak top-ends into spokes and felloes. The *Nilgiris.*—Felling and carting of fuel in Ootacamund and Coonoor ranges, sandalwood extraction in Sigur and improvement felling. *Kollegal* and *North Coimbatore.*—Sandal extraction, felling of small timber, Dindiga and Acha poles, bamboos, drag poles, and agricultural implements. *Central Coimbatore.*—Felling timber for supply to the Director of Industries and Buckingham Mills, clearing boundary lines of fuel coupes, and rectification of contractors' faults in some fuel coupes. *South Coimbatore.*—Selection fellings in coupe IX of Punachi Working Circle and a few fellings in the Tekkadi leased forests to meet urgent demand from the Military authorities.

Minor produce.—The details are mentioned in paragraphs 141 and 142 supra.

(ii) By Purchasers.

159. *Major produce.*—Thirteen fuel coupes (531 acres) in three ranges of *Mangalore North* were sold during the year. *Mangalore South.*—Three hundred and fifty-two logs of 11,922 cubic feet were removed by contractor from Jalsur East coupe I. One fuel coupe was sold standing. *North Malabar.*—Twenty-nine thousand two hundred and fourteen cubic feet of timber were sold standing from sub-coupe C of coupe II, Chedleth and from Kannoth forests. *The Nilgiris.*—One thousand four hundred and forty-eight cubic feet of timber from reserved forests and leased forests were removed by purchasers. Five fuel coupes in *Kollegal*, 13 fuel coupes in *North Coimbatore*, 20 fuel coupes (1,891 acres) in Central Coimbatore and all fuel coupes in *South Coimbatore* were sold to contractors.

160. *Disposal of produce at the edge of the forests—North Mangalore.*—Fuel obtained from improvement fellings in Pilarkan and Jarvattu, and that from the sample coupe in Mosabettu, were sold at the edge of the forest. *South Mangalore.*—Twenty-two thousand four hundred and eighty-nine cubic feet of timber from Kadambilla coupes X and IX were sold, at the road side forest depots and 5,123 cubic feet of timber from Parappa compartment II, at a riverside depot. Fuel ($88\frac{1}{4}$ chowks) from Nerankimale reserve also sold at the riverside and roadside depots. *South Malabar.*—Teak logs and saplings obtained from the trees felled in sample plots of certain teak plantations were sold at stump site. *North Coimbatore.*—Agricultural implements were retailed in the forest depots. *Central Coimbatore.*—Small fuel in head loads and agricultural implements are retailed from the coupes by contractors.

(iii) AND (iv) BY RIGHT-HOLDERS AND UNDER PRIVILEGES AND FREE GRANTS.

161. The following statement shows the quantity and the estimated value of produce removed by right-holders and free-grantees :—

—	Timber.		Fuel.		Bamboos.		Grass and grazing.	Other minor produce.	Total.
	Cubic feet.	Value.	Cubic feet.	Value.	Number.	Value.	Value.	Value.	Value.
		RS.				RS.	RS.	RS.	RS.
Right-holders	27,075	11,410	..	..	..	..	..	..	11,410
Free-grantees .. .	13,332	1,634	..	..	1,700	8	927	511	3,080
Total ..	40,407	13,044	..	..	1,700	8	927	511	14,490

The value of timber enjoyed by right-holders has decreased from Rs. 17,896 to Rs. 11,410. These removals were effected entirely from the two *Mangalores* and the decrease has not been explained. The estimated value of produce removed by free-grantees rose from Rs. 2,630 to Rs. 3,080. Free grants were made in *Mangalore North*, *The Nilgiris* and *North*, *Central* and *South Coimbatores* chiefly for the construction of houses burnt by fire, and for the quarrying of metal and gravel by the Local Fund. Toda buffaloes were as usual licensed to graze free and the estimated value of such grazing was Rs. 927. Free removal of thatch grass was allowed to the Todas to repair their munds.

162. (*c*) *Outturn and sources of produce*.—The outturn of produce collected by different agencies is compared with that of the previous year in the following abstract. *Northern Circle.*

Agency of exploitation.	Timber in thousands of cubic feet.		Fuel in thousands of cubic feet.		Bamboos in value.		Minor produce (including grass and grazing) gross value in rupees.	
	1916–17.	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.
					RS.	RS.	RS.	RS.
Government	125	77	260	126	2,659	9,723	5,340	18,487
Purchasers	914	867	4,365	3,201	1,45,301	1,34,373	2,75,990	3,85,777
Right-holders	59	76	581	581	439	705	25,047	24,775
Free grantees	77	42	3		1,765	1,570	16,112	15,250
Total ..	1,175	1,062	5,209	3,908	1,50,164	1,46,371	3,22,489	4,44,289

By Government Agency—Major produce.—The decrease under *timber* was chiefly in *Kurnool South* owing to sale of coupes standing and in *Kurnool West* to the restriction of fellings for want of demand, while that under *fuel* was in the latter district for the same reason, and in *Gōdāvari Lower* owing to smaller area felled in Kandikuppa plantation. *Minor produce.*—The increase was principally in *Kurnool West* where the collection of bamboos and minor produce was undertaken departmentally to provide employment for the *Chenchus* and the crop of tamarind was abnormally heavy.

By purchasers—Major produce.—The decrease under *timber* was chiefly due to lack of demand for timber from the Rampa forests in *Gōdāvari Lower* and under *fuel* to a special demand in 1916–17 for tent pegs for the Army in *Gōdāvari Lower*, and to a fall in the number of applications for darkhast lands in *Kistna* and in the removals from unreserved lands in *Kurnool South*. *Minor produce—Bamboos.*—The decrease was chiefly in the *Gōdāvaris* due to low prices realized for coupes in the *Upper* and to absence of demand for bamboos from Rampa forests in the *Lower*. The increase under *other produce* was due mainly to better prices offered for tanning barks. *Grazing.*—The number of cattle licensed to grazing on payment was 488,442 against 588,324 in the previous year.

By right-holders.—The increase in the quantity of timber removed was in *Ganjam* due to grant of concessions to a large number of the *Khonds*. *By free grantees.*—The decrease under *timber* was due to the fact that in the previous year, large grants were made for relieving distress caused by floods in *Kurnool South* and *West*.

Central Circle.

163. The total outturn of produce collected by different agencies compared with the previous year is appended below :—

Agency of exploitation.	Timber in cubic feet in thousands including sandalwood.		Fuel in thousands of cubic feet.		Bamboos in number.		Minor produce (including grass and grazing) gross value in rupees.	
	1916-17.	1917-18.	1916-17	1917-18.	1916-17.	1917-18.	1916-17.	1917-18.
							RS.	RS.
By Government Agency ..	11	15	56	56	5,469	11,175	12,575	1,23,895
By purchasers (including confiscation).	827	873	6,860	7,652	3,376,598	3,093,288	9,61,640	9,48,945
By right-holders ..	..	..	..	..	..	..	127	143
By free grantees ..	59	46	..	..	5,080	12,760	741	741
Total ..	897	934	6,916	7,708	3,387,147	3,117,223	9,75,083	10,73,724

The variations have already been explained in paragraphs 150 and 151. The rates of grazing fees levied in several districts are given in Form No. 74. The number of animals licensed to grazing on payment was 915,360 against 1,021,881 of previous year.

Southern Circle.

164. The total outturn is given in the following statement:—

Agency of exploitation.	Timber including sandalwood in thousands of cubic feet.		Fuel in thousands of cubic feet.		Bamboos in value.		Minor produce including grass and grazing value.	
	1916-17.	1917-18.	1916-17.	1917-18.	1916-17.	1917-18.	1916-17.	1917-18.
					RS.	RS.	RS.	RS
By Government Agency ..	25	23	38	40	640	532	1,402	20,009
By purchasers	828	788	4,770	5,626	1,20,968	1,14,675	3,76,314	4,38,810
By right-holders	..	..	..	..	.	..	1,051	3,906
By free-grantees	38	24	4	3	480	290	3,324	855
Total ..	891	835	4,812	5,669	1,22,088	1,15,497	3,82,091	4,63,580

The variations have already been explained. The rates for grazing fees levied in the several districts are shewn in Form No. 74. The number of animals licensed on payment was 670,190 against 908,842 in the previous year.

Western Circle.

165. The outturn of produce collected by different agencies is compared with those of the previous year in the following statement :—

Agency of exploitation.	Timber including sandalwood in thousands of cubic feet.		Fuel in thousands of cubic feet.		Bamboos in value.		Minor produce including grass and grazing in rupees.	
	1916-17.	1917-18.	1916-17.	1917-18.	1916-17.	1917-18.	1916-17.	1917-18.
					RS.	RS.	RS.	RS.
By Government Agency.	383	517	661	849	4,896	10,142	13,451	39,881
By purchasers ..	928	863	3,480	4,903	41,275	36,634	1,58,057	1,67,347
By right-holders ..	23	27	..	..	..	..	..	..
By free-grantees ..	4	13	..	..	36	8	1,144	1,438
Total ..	1,338	1,420	4,141	5,752	46,207	46,784	1,72,652	2,08,666

By Departmental Agency—Major produce.—The increase under timber was chiefly in *South Malabar* due to the clear-felling of 70 acres of old teak plantations and to increased thinnings in the other plantations; in *South Mangalore* to a larger outturn of the improvement fellings in Parappa reserve, in the *Nilgiris* to a larger area worked under improvement fellings in the Mudumalai working circle in *North Coimbatore* to larger extraction of sandalwood and in *South Coimbatore* to felling of timber for military supply.

Fuel.—The increase was chiefly in the *Nilgiris* due to arrear clear fellings and to increased demand; in the two *Mangalores* to the exploitation of larger areas. *Minor produce—Bamboos.*—The large increase was due to a larger number of bamboos used in *South Malabar* and *South Mangalore* for rafting and floating timber. *Other*

produce.—The abnormal increase under this head was chiefly in both the *Mangalores* due to the value of hay supplied to the Military Department having been taken into account; to the sale in *Central Coimbatore* of elephant tusks collected in all the divisions of the circle.

By purchasers—Major produce.—The decrease under timber was chiefly in *Mangalore North* due to a less number of darkhast assignment; while the increase under fuel was mainly in *Central Coimbatore* due to better realization by the Revenue Department and owing to inaccurate yield figures furnished by coupe purchasers. *Minor produce—Bamboos.*—The decrease was chiefly in *North Coimbatore* due to a smaller area leased out and in *South Coimbatore* to non-sale of bamboo coupes within the year. *Other produce.*—There was a great fall in grazing revenue in *North Coimbatore* due to the levy of fees at normal rates unlike double rates in the previous year.

CHAPTER III.—FINANCIAL RESULTS.

166. The following statement compares the results of the year with those of 1916–17 and with the average of the past five years:— *Northern Circle.*

——	1917–18.	1916–17.	Average of the previous five years.
	RS.	RS.	RS.
Revenue	8,32,891	8,44,712	7,84,436
Expenditure.			
Refunds	2,354	25,935	11,133
A. Conservancy and Works	2,33,981	2,50,716	3,33,262
B. Establishments	3,81,392	3,99,333	3,87,309
Total expenditure ..	6,17,727	6,75,984	7,31,704
Surplus ..	2.15,16[illegible]	1,68,728	52,732

The surplus was the highest on record in this circle. Compared with the results of the last year, there was a fall in the revenue due to causes explained below; this was far more than counterbalanced by decreased expenditure chiefly by the necessity for economy on account of the war, but there seems a danger of enough funds not being available under 'A. Conservancy and Works.' Twenty-eight per cent of the revenue was derived from major produce, 13 per cent from grass and grazing, 52 per cent from minor produce and the balance 7 per cent from miscellaneous sources. Of the expenditure 14 per cent was incurred on the exploitation of forests, 29 per cent on their upkeep and improvement and 57 per cent on miscellaneous items. The estimated value of produce at sale depots at the end of the year was Rs. 11,083, against Rs. 8,349 at its commencement. The revenue outstanding at the close of the year was Rs. 1,52,176 against Rs. 2,41,689 in the previous year; of the former, Rs. 26,367 fell due within the year.

The important variations between the actuals of the year and those of the previous year are explained below.

RECEIPTS.

(i) *By departmental agency.*

Timber. —Rs. 5,321.—The decrease occurred chiefly in the *Kurnool* divisions due to non-felling of certain coupes in the *East* the system of felling not having been settled, to the leasing of some of the coupes in the *South* and to the stoppage of felling timber in the *West* for want of local demand.

Fuel. —Rs. 3,281.—Due to a smaller outturn from Kandikuppa plantation in *Gōdāvari Lower* and to the want of local demand in *Kurnool West.*

Bamboos. +Rs. 6,629 and *Minor produce*+Rs. 8,461.—Due to the starting of departmental operations in *Kurnool East* and *West* to provide labour for the *Chenchus* and to a very heavy crop of tamarind and gallnuts in the latter division.

(ii) *By purchasers.*

Timber. +Rs. 7,555.—Due chiefly to the increased receipts from unreserved lands in *Ganjām* and to the leasing out of coupes hitherto worked departmentally in *Kurnool South.* The increase would have been greater but for a large decrease in *Gōdāvari Lower* due to lack of demand for timber from the Rampa Agency for want of railway and transport facilities.

Fuel.—Rs. 1,10,596. The revenue was abnormal last year on account of the sale of an area in *Gōdāvari Lower* for the supply of tent pegs to the Military department and of the disafforested casuarina plantations in *Kistna.*

Bamboos. — Rs. 7,488.—The absence of demand for bamboos in the Rampa Agency in *Gōdāvari Lower* and the low prices realized for coupes in *Kurnool South* are the chief causes of the decrease.

Grazing and fodder grass.—Rs. 11,187.—Heavy rains of the previous year caused a good deal of mortality in consequence of which fewer delta cattle resorted to the Agency tracts in *Gōdāvari Lower* and the heavy mortality is also reported in *Kistna, Kurnool East* and *West* on account of rinderpest and floods.

Minor produce. + Rs. 1,04,169.—The sale of *cassia fistula* bark in *Gōdāvari Lower* and the considerable increase in the prices realized for tanning barks during the year accounted for the increase.

(iii) *Miscellaneous (including confiscated drift and waif-wood).*

— Rs. 969.—Calls for no remarks.

EXPENDITURE.

A. Conservancy and Works.

— Rs. 16,735. Due mainly to the stoppage of felling timber and fuel, for want of demand, and of planting operations, and to the reduced expenditure on fire protection operations in *Kurnool West.* In *Kurnool South,* some coupes were sold standing instead of being worked departmentally. The general curtailment of expenditure on account of the war also contributed to the decrease.

B. Establishments.

—Rs. 19,975.—The decrease was chiefly under 'Salaries' and 'Contingencies' and was due to some of the district charges having been held by Provincial officers and to fewer junior officers being attached to divisions and to general observance of economy.

Central Circle. 167. The following statement compares the financial position of the circle for the year under report with that of the previous year and the average of the preceding quinquennium :—

—	1917-18.	1916-17.	Average of preceding five years.
	RS.	RS.	RS.
Revenue	14,20,770	14,36,286	11,70,867
Expenditure.			
A.—Conservancy and works including refunds.	3,20,693	2,16,874	2,64,238
B.—Establishments	3,89,254	3,91,803	3,82,733
Total of A and B	7,09,947	6,08,677	6,46,971
Net results	+ 7,10,823	+ 8,27,609	+ 5,23,896

The net results show a surplus of Rs. 7,10,823 against one of Rs. 8,27,609 in the previous year and Rs. 5,23,896 the quinquennial average.

The reason recorded in the last report regarding surplus, holds good this year also.

The decrease in surplus is due to—

(1) Decrease of Rs. 1,22,877 under V (*b*) on account of a very large amount realized under V (*b*) in 1916–17 by the sale of forest lands with tree growth.

(2) Non-adjustment of portion of value of hay supplied to the Military Department.

(3) Balance of stock of 1,870 tons of hay on hand at the close of the operations for the collection of which expenditure has been incurred and adjusted.

The revenue decreased by Rs. 15,516 and the expenditure increased by Rs. 1,01,270. Of the receipts 18 per cent were realized from major produce, 50 per cent from minor produce, 24 per cent from grass and grazing and 8 per cent from miscellaneous items.

Of the expenditure in the whole circle about 68 per cent was devoted to the upkeep and improvement of the forests and 32 per cent to exploitation, etc. The outstanding revenue at the close of the year was Rs. 3,40,574.

The estimated value of timber and other produce at sale depots at the close of the year was Rs. 403 against Rs. 3,745 at the beginning of the year. The important variations between the actuals of the year and those of the previous year are explained below :—

RECEIPTS.

(i) *By departmental agency.*

The variations under all heads except minor forest produce are small. Under minor forest produce the increase was due to the realization of revenue from hay operations departmentally undertaken as a war measure in the districts of *Anantapur*, *Guntūr*, *North Cuddapah*, *South Cuddapah*, *West Cuddapah* and *Chittoor*, and to the realization by sale of nux vomica belonging to the previous year credited during the year in *Nellore* district.

		RS.
Timber	—	113
Fuel	+	706
Bamboos	+	2
Sandalwood	—	5
Minor forest produce	+	44,818

(ii) *By purchasers.*

		RS.
Timber	—	2,030
Fuel	+	1,119
Bamboos	+	842
Grazing	+	34,361
Minor forest produce	+	26,516

Timber, — *Rs.* 2,030.—This is a variable head depending as it does chiefly on the revenue derived from the sale of trees on darkhast lands.

Fuel + *Rs.* 1,119.
Bamboos + *Rs.* 842. } The variations are small and call for no remarks.

Grazing + *Rs.* 34,361.—Due to special fees charged for grazing in January and February 1918 at As. 4 per cow unit in *Guntūr*, to the realizations and adjustment of one-fourth lease amounts of 1918–19 kanchas before the end of the forest year and partly to better prices fetched for the kanchas in *Nellore* and to the introduction of the kancha system of grazing in *Chingleput* which brought a larger revenue.

Minor forest produce, + *Rs.* 26,516.—Due chiefly to the adjustment of Rupees 62,000 to mica from Civil Court deposits and to the better prices realized for tanning barks in *Guntūr* and *Chittoor* and larger realization of tree-tapping fees in *Bellary*.

(iii) *Miscellaneous (including confiscated drift and waif wood).*

— *Rs.* 1,21,732.—The decrease is due to the non-sale of forest lands in *Guntūr* and *Chingleput* which accounted for the large increase under this head last year.

EXPENDITURE.

A. Conservancy and Works.

+ *Rs.* 1,03,819.—Due chiefly to departmental hay operations in *Anantapur*, *Guntūr*, in the three divisions of *Cuddapah* district and in *Chittoor*.

B. Establishment.

— *Rs.* 2,549.—Due to the abolition of the nine temporary forest clerks in each taluk office in *Nellore* district during the year and to the non-entertainment of the temporary assistant to the Forest Commissioner during the latter half of the year and to the abolition of working-plan office in *Bellary* which was in existence in 1916–1917.

Southern Circle. 168. The financial position of the year under report is compared with that of the previous year and the average of the preceding five years in the following abstract :—

——	1917–18.	1916–17.	Average of the preceding five years.
	RS.	RS.	RS.
Revenue	16,93,340	14,06,096	12,80,335
A. Conservancy and Works (including refunds).	2,87,255	2,39,252	2,51,075
B. Establishment	4,24,100	4,00,517	3,78,918
Total expenditure ..	7,11,355	6,39,769	6,29,993
Surplus ..	9,81,985	7,66,327	6,50,342

The revenue and expenditure increased by Rs. 2,87,244 and Rs. 71,586 respectively when compared with the previous year. The net surplus increased from Rs. 7,66,327 in the previous year to Rs. 9,81,985 during the year under report, the highest on record. Much of this revenue comes from the capital value of forests sold in *South Arcot* and *Trichinopoly* and from the extraction of sandalwood trees blown down by the cyclone.

Towards receipts, the major produce contributed 62·6 per cent minor produce 32·1 per cent and miscellaneous sources 5·3 per cent. 7·0 per cent of the expenditure was directed towards exploitation, 45·1 per cent to the upkeep and improvement of the forests and 47·9 per cent to miscellaneous items. The proportion of net to gross revenue increased from 54·5 per cent to 57·9 per cent. The outstanding revenue at the close of the year was Rs. 2,02,537 of which Rs. 14,780 fell due within the year. The estimated value of timber and other produce at the sale depots at the close of the year was Rs. 1,68,982 against Rs. 1,69,461 at the beginning of the year.

RECEIPTS.

The important variations between the actuals of the year under report and those of the previous year are explained below :—

(i) *By departmental agency.*

Sandalwood, + *Rs.* 84,382 due to high prices obtained for sandalwood.

Grass and other minor produce, + Rs. 4,885 due to departmental supply of hay to the Military Department in *North* and *South Salem* divisions.

(ii) *By purchasers.*

Timber, — *Rs.* 24,358.—This is a fluctuating item.

Fuel, + *Rs.* 1,62,763 due to the disposal of provisional class IV and class VI forests in *South Arcot* and *Trichinopoly.*

Bamboos, + *Rs.* 5,386 due chiefly to the collection during the year of five instalments in *South Vellore.*

Grazing, + *Rs.* 25,978 due to enhancement of grazing fees in *North Vellore*, *South Arcot*, *South Salem*, *Madura* and *Tinnevelly.*

Minor produce, + *Rs.* 3,543.—The increase is small and calls for no remarks.

(iii) *Miscellaneous (including confiscated drift and waif wood).*

+ *Rs.* 5,693.—Due chiefly to the crediting to V (*b*) the contribution received from Local Funds for the maintenance of roads in *Madura.*

EXPENDITURE.

A. Conservancy and Works.

The expenditure during the year under report increased Rs. 48,003 over that of the previous year. The increase was appreciable under refunds due to the refund of full grazing fees to the Malayalis in the Javadis, under I (*e*) due to hay-making operations, *under* A-VI (*c*) due to purchase of new tents, *under* VII (*b*) due to heavy expenditure under buildings in *Madura*, as per working-plan and *under* VIII (*g*) to the expenditure on special operation for stopping the spread of spike in *West Vellore* and to the purchase of iron materials for the improvement of the water-supply on the Javadis.

B. Establishment.

The expenditure on establishment increased by Rs. 23,583 when compared with the previous year and this was due chiefly to the formation of the new *West Vellore* division, to the appointment of working-plans party and to the employment of additional Deputy Rangers, Foresters and Guards for the additional ranges in *Madura* and *South Salem* divisions.

CHAPTER III.—FINANCIAL RESULTS.

169. The financial results of the year are compared with those of the last year and the average of the preceding five years in the following abstract :— *Western Circle.*

—	1917-18.	1916-17.	Average of the previous quinquennium.
	RS.	RS.	RS.
Revenue	14,69,495	10,91,922	9,44,948
Expenditure—			
Refunds	5,792	2,837	4,368
A. Conservancy and Works ..	4,84,234	4,53,112	4,53,682
B. Establishments	3,90,541	4,03,995	3,74,093
Total expenditure ..	8,80,567	8,59,944	8,32,143
Surplus ..	5,88,928	2,31,978	1,12,805

The surplus was a record for the circle ; 67 per cent of the receipts was realised from major produce, 9 per cent from minor produce, 6 per cent from grass and grazing and the balance from miscellaneous sources. Of the expenditure, 38 per cent was devoted to the exploitation of forest, 28 per cent to their upkeep and improvement and 34 per cent to miscellaneous items. The revenue outstanding at the end of the year was Rs. 1,34,225 of which Rs. 37,972 fell due within the year. The estimated value of the produce in sale depots was Rs. 5,83,388 against Rs. 1,52,419 ; the major portion consisted of the unsold stock of sandalwood at the Satyamangalam depot.

The important variations between the actuals of this and the preceding year are explained below :—

RECEIPTS.

(i) *By departmental agency.*

Timber + *Rs.* 2,73,520.—The increase was mostly in *South Malabar* due to a larger outturn obtained from the first final fellings and the outturn from heavier thinnings in the plantations. The realization of the previous year's outstandings in *North Malabar*, the sale of the previous year's stock of timber *North* and *South Mangalore* and the *Nilgiris* and the sale of timber to the Munitions Board and the recovery of Ulandi coupe I revenue, from the last year's defaulting contractor in *South Coimbatore*, also contributed to the increase.

Fuel, + *Rs.* 17,018.—Due chiefly to increased rates of sale and increased supplies to the Military Establishments in the *Nilgiris*, and to a larger quantity of fuel felled and sold in *South Mangalore.*

Bamboos, + *Rs.* 4,260.—Due to sale of a larger number of bamboos used for floating in *South Malabar.*

Sandalwood, — *Rs.* 48,849.—Due to non-sale of the stock at the Satyamangalam depot on account of failure of market demand.

Minor produce, + *Rs.* 9,453.—Due to sale of previous year's stock of Catechu in *North Mangalore.*

(ii) *By purchasers.*

Timber, + *Rs.* 5,452.—Due to realization of previous year's outstandings and to increased yield from sub-coupe C of Chedleth coupe II in *North Malabar* and to increased revenue from sale of standing stock in *South Malabar* and *South Coimbatore.* The increase would have been greater but for the delay in the disposal of darkhast applications in *North* and *South Mangalore* the rangers concerned having been engaged on urgent hay operations for military supply.

Fuel, + *Rs.* 52,592.—Due mainly to fancy prices obtained for coupes in *Central Coimbatore.*—The opening of additional fuel coupes in *North Coimbatore*, and higher rates realized for coupes in *North* and *South Coimbatore* also contributed to the increase.

Bamboos, — *Rs.* 3,983.—The fall was mainly in *North* and *South Coimbatore* due to want of transport facilities, and was partly counter-balanced by sale of a greater number of coupes in *Central Coimbatore.*

Grazing, — *Rs.* 13,554.—The reversion to ordinary rates in 1917–18 after the punitive rates of 1916–17, mainly accounted for the decrease.

Minor produce.

+ *Rs.* 19,210.—Due to increased amounts realized for minor produce leases in *North*, *Central* and *South Coimbatore* and the sale of Konnai bark in *Kollegal.*

(iii) *Miscellaneous (including confiscated drift and waif-wood).*

+ *Rs.* 62,454.—Due to increased revenue realized by sale of elephants, and to the realization of the sale-proceeds of two disafforested reserves in *Mangalore North* and the balance of purchase-money and arrear rents due on estates in *South Coimbatore.*

EXPENDITURE.

A. Conservancy and Works.

+ *Rs.* 31,122.—The increased expenditure was chiefly incurred on the following items. Increased felling of timber, fuel and bamboos which contributed to the increased revenue aforesaid, extensive sandal fellings in *North Coimbatore*, the hay operations in *North* and *South Mangalore* to meet the military demand, increase in the number of elephants captured, the purchase of a greater number of bullocks and buffaloes, and the increased cost of maintaining the live-stock in *South Malabar* and *South Coimbatore*, the formation of new plantations, the extension of the old ones and heavier thinnings carried out in *South Malabar*, the prickly-pear clearings in *North* and *Central Coimbatore* and the expenditure incurred by the temporary assistant to the Forest Commissioner on initiative works in *North Malabar* forests.

B. Establishment.

— *Rs.* 13,454.—The decrease was chiefly due to the non-posting of officers whose pay was provided in the budget and to less expenditure on uniforms.

CHAPTER IV.—RESEARCH AND EXPERIMENTS.

Northern Circle. 170. *Cask staves.*—The *Shorea robusta* staves mentioned last year were made up at Nellikuppam (East India Distilleries and Sugar Factories Company, Limited) and were reported to be too porous for spirit and also brittle. The conclusion is not understood as the timber has been tried in Northern India and found satisfactory.

Lac.—The attempt repeated in 1917–18 to introduce the lac (*Tachardia lacca*) on to *Butea frondosa* in *Kurnool West* proved a failure. The insects which had duly swarmed were destroyed by ants. We are trying again.

Destruction of creepers by painting.—This has again proved a failure except at Pecheruvu in *Kurnool West* perhaps owing to heavy showers before the materials had time to take effect. At Pecheruvu, the creepers dealt with were *Bauhinia vahlii*,

Combretum ovalifolium, *Pterolobium indicum*, *Zizyophus œnoplia*, *Jasminum* species, *Capparis sepiaria*. Of 75 cut flush with the ground, 36 died in three months and of 75 cut between one and two feet above ground, 52 were 'showing signs of death.' Experiments are now in progress in *Ganjām* and *Kurnool West* only and will be concluded in 1918-19.

Sal regeneration.—It was found in *Ganjām* that the removal of fallen leaves gave a larger number of seedlings than where the leaf-fall was left.

Much experimental work in connexion with *Shorea robusta* to test the effect (1) of ploughing, etc., on *sal* regeneration, (2) of various degrees of thinning, (3) of weeding, (4) of reducing the number of stems per stool and so on has been carried out in *Ganjām* and the results will be noted in the working plan for the sal forests which is under preparation.

Pouteria suavis.—The unsatisfactory results recorded in the last administration report were due to browsing. The plants were doing very well in November 1917 when the Conservator saw them and there seems every chance of the tree succeeding.

Edible dates in *Gōdāvari Upper* are reported to be 'thriving, but they do not appear to be healthy and vigorous.' It is possible that they do not fruit because there are few of them and by an accident they are all of one sex. The plant is dioecious.

Sandal.—This has already been referred to under cultural experiments in paragraph 92. It appears to thrive everywhere and there is no sign of "spike."

Divi Divi (*Caesalpinia coriaria*) seems to thrive in most localities. The difficulty is to find a market for the fruits possibly because only small quantities are available.

Red sanders (*Pterocarpus santalinus*) has been sown in small quantities in most districts. It is worth recording that in the Napier Park reserve in *Ganjām* one tree now 25 years old has a girth of 51½" at breast height and that trees here seem to have the normal quantity of heart wood.

171. *Research.*—No research work was undertaken. The want of local research institute with the necessary staff of specialists is very greatly felt in this Presidency. *Central Circle.* Until the department obtains one it is very unlikely that much useful research work can be accomplished. The establishment of a research institute in connexion with the Madras Forest College is, therefore, very strongly urged as a real necessity for this Presidency.

172. *Experiments.*—It has been decided to endeavour to extend the area of Cassia auriculata growth owing to its great value for tannin. In this circle as much as 42,547 lb. of the seed have been collected up to the end of June 1918, and this amount of seed is almost entirely needed for distribution among the districts of the circle itself for cultivation of selected areas.

At the suggestion of Mr. J. A. Master, who was then District Forest Officer of Bellary, and after personal discussion with the Conservator, the following experiment was carried out in the closed area of "Matriki" reserve with a view to determine the best method of cultivation:—

Three plots of one acre each were laid out—

(1) In one of the plots the area was ploughed and seed was sown broadcast,

(2) in a second plot seed was sown in furrows,

(3) and in a third plot the seed was sown broad cast but no ploughing was done. It is reported that the germination in the ploughed and furrowed plots was quite successful, 75 per cent of the seed being reported to have come up; whereas there was no germination at all in the third plot which had neither been ploughed nor furrowed but only sown broad cast.

The result of this experiment goes towards proving that to throw seed broadcast over *unprepared land* is a waste of seed and labour. The natural opinion would of course be given that this must necessarily be so, but here we have a *recorded fact after conducting an experiment.* As Mr. Marsden, the Imperial Sylviculturist, has very rightly remarked in the annual progress report of the Imperial Forest Research

institute for 1916–17 mere opinion is of value *only as* affording a basis of experiment : it cannot be permitted to take the place of continuous observation and record on the spot.

Further in Bellary district arrangements for the experimental sowing of red sanders (*Pterocarpus santalinus*) and Yepi (*Hardwickia binata*) were made by sowing seed under three distinct and different methods, viz.—

(1) Sowing seed which had been soaked in water for 48 hours just before dibbling,

(2) sowing seed untreated in any way,

(3) sowing seed which had been previously treated in a pit by alternate layers of seed and manure covered up with earth and watered for about two weeks.

Seed of *Hardwcikia binata* under the above three methods was sown in six plots, three square chains each in the Malpanaguddi-Yepi block as noted below :—

Plot (1) with ordinary seed simply dibbled in,

Plot (2) with ordinary seed simply dibbled in *pits*,

Plot (3) with seed soaked in water for 48 hours and then dibbled in,

Plot (4) with seed soaked in water for 48 hours and then dibbled in *pits*,

Plot (5) with seed previously treated in pits for two weeks as described above and dibbled in, and

Plot (6) with seed previously treated in pits. Of the above 25 per cent of seed sown in items (1) and (3) is reported to have germinated and 50 per cent in items (2) and (4), whereas in items (5) and (6) *no* germination took place at all.

A further experiment was also conducted by sowing seed treated under the three methods described above in 204 baskets and seedlings reared. It is reported that no less than 90 per cent of dry seed, as well as seed soaked for 48 hours before sowing germinated and 60 per cent of the seed treated under the pit method.

Similar experiments were conducted also in Gundu coupe No. 4 with the result that germination was successful under *methods* (1) and (2) whereas the seed sown under method (3) failed to germinate and was found to have rotted after fourteen days.

These experiments the Conservator views as exceedingly useful and desires to record his thanks to Mr. Master for having initiated and carried them out while in the *Bellary* district.

Chingleput.—The utility of the fruit of *Zizyphus xylopyra* as a tanning agent was tested. At first, samples of fruit collected in Guindy park reserve were experimented both by Messrs. Chambers and Company, Pallavaram, and Best and Company, Kodambakkam, who declared them useless. The Forest Economist, Dehra Dun, subsequently sent a copy of Mr. Pilgrim's report on his experiment with the fruits of *Zizyphus xylopyra*. Another consignment was sent to both the abovesaid companies enclosing a copy of Mr. Pilgrim's report, and at the same time a third consignment was sent to Dehra Dun. Messrs. Best and Company pronounced no opinion, but Messrs. Chambers and Company reported that they were able to discover that it contained a good quantity of tannin. The Forest Economist, Dehra Dun, communicated the result of his experiment to the effect that the fruit contained a small percentage of tannin and could be used only as an admixture with other tanning materials on account of its gelatinous liquor. The experiment will be renewed this year.

It has, however, to be remembered that as remarked by the Controller of Tanning Stuffs, the time for picking the fruit of Zizyphus xylopyra is so restricted that it is exceedingly difficult to deal with it.

The result of the experiment of Euphorbia wood called for in paragraph 33 of Board's Proceedings Forest No. 3, dated 29th January 1918, has been reported in C. No. 287/18, dated 5th March 1918.

Chittoor.—An area of two acres in the Inaparallamitta timber working circle in the Mamandur reserves was burnt over in the month of March in order to watch the effect on the re-production of red sanders ; results cannot be expected until after the rains. In this as well as the other working circles in worked coupes small patches near red sanders trees have been cleared of weeds and the ground worked up. Here

too the advent of the rains must be awaited before results can be expected. Girth measurements of red sanders in the sample plot started by the Madras Forest College in the Chittoor reserve were taken and recorded.

Some seeds of *Hopea parviflora* were obtained from *South Kanara* and dibbled in the evergreen portion of the felled coupes of Thumburukona Working Circle of the Napier reserve. It is too soon to judge of the results.

Sandalwood seed is being collected and distributed in most of the districts for dibbling in the forests, but care must be taken in these operations, as, if it is merely thrown broad cast on the ground, it will probably lead to little or no useful results. Such dibblings need to be effected under proper supervision in promising localities and those locaties wherein they are conducted should be identifiable hereafter and regular records kept.

The results of the experiments initiated by Mr. Marsden, the Imperial Sylviculturist, referred to in last year's report to determine the girth increment and development of heavily thinned red sanders plantations and the conditions best suited for the natural regeneration of this species are still awaited. *

The discovery of the utility of the bark of *Anogeissus latifolia* as a tanning agent has led to a call for large quantities of this produce. The removal of the bark from large areas may not tend to do a great deal of harm where the tree is of crooked and stunted growth only, if the trees are cut flush with the ground. Where, however, the tree grows to a useful size as a timber tree, care will have to be taken to prevent too large inroads for the out-take of this produce, as otherwise a great deal of damage may result to the forest. In any case it has to be looked upon as an urgent war measure and the demand must be met as well as it is possible to do.

1. *Sandal.*

173. (*a*) *The effect of girdling.*—The experiments reported on in the last report are being continued, but no new facts have been elicited. *Southern Circle.*

(*b*) *Is Sandal an obligate root-parasite ?*

The experiments conducted in South Vellore seem to show that sandal is not an obligate parasite. The six trees trenched, one in February 1916 and five in August 1916, show little material alteration in condition and after being deprived of all nutriment taken up by the haustoria for a period of two years continue to grow apparently as vigorously as other trees.

Experiments are now being made with seedlings in the Komattiyeri bungalow compound which are similarly trenched and in this case, bamboo fences have been erected inside the trench. Many of the seedlings have died, but it is particularly noticeable that those near the fences are growing most vigorously, probably owing to the side shade.

(*c*) *The Andiappanur experiments of West Vellore.*

These were started on the 4th September 1916 to ascertain if anything like spike or stag headedness could be produced by cutting off the haustoria or by poisoning the roots with strong sulphuric acid.

Four trees were experimented on in various ways but, though subjected to similar maltreatment again in November 1917, none of the trees show any sign of deterioration up to date.

Sandal shows wonderful recuperative powers and, when a rootlet is severed, throws out new rootlets and haustoria from the severed portion.

(*d*) *Rate of growth.*

Experiments carried out in the Papireddipatti rest house in South Salem and at Komattiyeri in West Vellore show that the rate of growth of sandal in the early years is quicker than was suspected. In many cases well established plants of 2 to 3 feet high have been raised in a single year without water or tilling of the soil and in one case at Komattiyeri a plant has in a single year attained a height of 9 feet.

* NOTE.—A report on this matter has since been received from the District Forest Officer, South Cuddapah, and will be dealt with in a separate reference.

The measurements of trees in the special tending areas in South and West Vellore are being continued and should give reliable data in the course of a few years.

(e) Production of root suckers.

The trench system of producing root suckers has been largely extended and some wonderful regeneration has been secured by this method. It has been noticed that much better results are secured, if the trenching is done early in the year i.e., April to June than if deferred until October and November.

(f) The age of production of scented wood.

An area of 51 acres of sandalwood at Nellivasal had to be entirely cleared of all growth in an attempt to stop the spread of "spike." Incidentally this has furnished some useful statistics showing the amount of scented wood (rough cleaned) produced by each girth class.

Girth.	Number of trees.	Outturn of scented wood.	Average per tree.	Number of trees containing no scented wood.
		QRS. LB. OZ.	QRS. LB. OZ.	
0 to 6"	3	0 10 12	0 3 9	176
7" to 12"	199	81 11 2	0 11 7	1,426
13" to 18"	698	748 20 6	1 2 0	110
19" to 24"	492	1,177 9 4	2 9 0	Nil.
25" to 30"	215	1,115 19 4	5 5 5	Nil.
31" to 36"	62	574 20 4	9 7 8	Nil.
37" to 42"	23	353 27 12	15 15 0	Nil.
43" to 48"	4	61 0 0	15 7 0	Nil.

(g) Spike disease.

Considerable progress has been made with the investigation of the disease during the year and a special report on this subject has been made to the Board of Revenue. This will shortly be published in the Indian Forester.

In North Salem, the points which have been chiefly observed relate to the spread of spike from tree to tree and the spread of spike in individual trees. Under the advice of Doctor Coleman, seed from spiked trees is being experimented with and the experiments with insects are being placed on a more scientific basis.

It has been observed that what was termed "lanky spike" in the last report appears to be a separate disease and not a precursor of true spike.

In West Vellore, a definite attempt to arrest spike has been made at Nellivasal. The area found attacked in June 1917 with a protective zone of 1 furlong was completely cleared of all sandal, *Zizyphus oenoplia*, *Dodonoea viscosa*, *Scutia indica* and *Cipadessa fruticosa*, shrubs and climbers most subject to similar disease. The work was completed on 4th January 1918. No spike has been observed up to date in the surrounding area.

An able article dealing with the Komattiyeri and Alangayam experiments, the clearing of trees from creeper growth and the uprootal of trees by the cyclone of November 1916 and their relation to the production of spike disease was published in the Indian Forester for July 1918.

No report has been made as to the spread of spike in the Kollimalais and the Pachamalais of the *Trichinopoly* district.

(2) *The thinning of Teak and Albizzia amara coppice.*

174. No report has been made with regard to the experiment with teak coppice at Mundanthorai in *Tinnevelly* district. In Madura experiments were started two years ago with *Albizzia amara.* In the Karandamalais and Alagar Koil stumps cut flush with the ground but untrimmed with the bark left ragged have sent up as many shoots as well coppiced stools. In Rajadani a coating of lime was tried, but though no shoots were produced in some cases, yet in three cases over 60 shoots were produced. In Andipatti, the shoots were cut back in a six-year old coupe and no fresh shoots were produced. In Senkurichi, the shoots left after thinning are more or less uniform but the dominant shoots on unthinned stools have attained a larger girth. The District Forest Officer is doubtful if thinning improves the coppice.

(3) *The thinning of Bamboo clumps.*

175. This work is being carried out in *Tinnevelly*, in Ambur and Pichanur of *North Vellore* and on a larger scale on the Javadis of *South Vellore* and the results are being observed.

In Belur of the *South Salem* district the thinned clumps flowered and died.

During the year there has been a sporadic flowering of both kinds of bamboos and this has been noticed in the districts of *North, South* and *West Vellore*, in *North* and *South Salem* and in South Arcot.

Though widely extended this is not a general flowering.

(4) *Hardwickia binata.*

176. The pruning of young plants in *North Vellore* is being continued with good results.

(5) *The regeneration of evergreen forests.*

177. The experiments are being continued but report has not been made concerning them in the District Report. The seed of *Gluta travancorica* is far less advanced this year, probably due to the shortage of rain.

(6) *The collection of tan stuffs.*

178. Apart from *Cassia auriculata*, the circle is rich in tan stuffs and during the year many of these have been analysed, thanks to the good offices of Mr. J. A. Pilgrim, Tanning Expert.

The following are some of the principal analyses received :—

From Tinnevelly.	Rosy Sumac.	*Anogeissus latifolia*	(red leaves) ...	54·59
„ Madura.	Red Sumac.	„	„ ..	33·14
„ „	Green Sumac.	„	(green leaves).	24·99
Acacia decurrens.	Bark	... ...	... ...	43·27
„ *dealbata*	„	... ...		17·94
„ *melanoxylon*	„	... ...	... ...	9·61
Leaves of *Grewia tilliaefolia*	...	... ...	... ...	11·48

The Bark of *Rhus mysorensis* which grows so freely in *Madura*, *North* and *South Salem*, *South Arcot* and at the foot of the Javadis analysed 19·51 per cent and tans a fine leather.

Experiments made in the Leather Trade School, Madras, show that the bark of *Anogeissus latifolia*, whether twig or stem bark, are full of tannin and this bark has been accepted by Indian tanners to supplement that of *Cassia auriculata*.

As a war measure, the Anogeissus tree is being sacrificed to the tanning trade in the districts of *North, South* and *West Vellore*, in *North Salem* and in *Madura* and coupes are being worked. After felling the leaves are collected and bagged and the bark is then taken off and the wood sold wherever marketable. The bark is taken to the various depots set up by the Controller of Tan Stuffs and the leaves are sent to Madras where they are being utilized by European firms. Over 100 tons of bark have been collected chiefly from *West Vellore* and several tons of leaves chiefly from *South* and *West Vellore*. No attempt is being made to make profit out of these collections, the chief object being to supplement the ordinary supply of tan stuffs and get these materials known in the market.

(7) *Outturn of green leaf for manure.*

179. An experiment was made in Charagal North reserve of *North Vellore* to ascertain how much green leaf was procurable from a given area. One hundred and eleven headloads were obtained from a five acre plot.

(8) *Prickly-pear mucilage.*

180. Fresh mucilage obtained from the unripe fruit of the prickly-pear was found to be a good adhesive, especially for mounting photographs. The tests applied at Dehra Dun showed that this was of little use as the adhesive properties were lost in drying.

RESEARCH AND EXPERIMENTS.

181. Six and a half maunds of *Hopea* bark were sent from *South Mangalore* to the tanning expert of the Government of India who reported that the experiments so far made were very promising. A further consignment of 35 maunds has since been despatched in response to an indent from that officer ; In *North Malabar Pterocarpus* ***Western Circle.***

and *Terminalia* seeds were dibbled under shade in Begur range for the purpose of seeing to what extent the seed will germinate under such conditions. The results were satisfactory as 60 per cent of (Pterocarpus) and 40 per cent of the *Terminalia* were found to have germinated. Three-hundred and six cubic feet of certain soft woods were supplied to the Buckingham and Carnatic mills and were reported to be favourable substitutes for European wood of that class. Three thousand two hundred and sixty-six cubic feet of the inferior hard woods have been despatched from the Kanoth forests awaiting shipment to Europe. In *South Malabar* mahogany (var :) Macrophylla continues to flourish; a 45 year old tree has attained the height of 99 feet and girth of 110 inches. A very large quantity of teak and other seeds were supplied to places all over India. In connexion with the new working plan, seeds of several miscellaneous trees were collected and sown in nurseries. Broadcast sowings of Hopea and Terminalia made last year were failures. Further analysis of Wattle bark supplied from the *Nilgiris* appear to show that all hope of making use of this bark must be abandoned. An experimental collection of 2,000 lbs of anogeissus bark was made and despatched to the Controller of Tanning Stuffs. The cost of collection and delivery at the Ootacamund Railway station was Rs. 21-8-0 per candy which places the utilization of the anogeissus in these forests out of the question. Two candies of *anogeissus* bark were sent to the Controller of Tanning Stuffs from *Kollegal*. But here again the cost of delivery owing to distance from the Rail is prohibitive. Ranger Miranda carried out an experiment with the destructive distillation of *Erythroxylon monogynum* which has been favourably reported on by the Forest Research Institute, Dehra Dun. From *Central Coimbatore Anogeissus* bark was supplied to the Controller of Tanning stuffs and his opinion upon its value and the cost of collection is awaited. Very large estimates for the collection and supply of *Anogeissus* bark from *North Coimbatore* have been sanctioned with the approval of the Controller of Tanning Stuffs and the work is just about to commence.

CHAPTER V.—ADMINISTRATION.

Northern Circle.

182. *Circle charge.*—The circle was administered by Mr. H. A. Latham throughout the year.

183. *District charge.*—The proposal to form a fourth division in *Kurnool* was approved by the Board and a notification describing the limits of the new division called for. The formation of the third forest division in *Godavari*, though sanctioned, could not be brought into force owing to paucity of controlling officers.

184. *Range charge.*—There were no changes during the year.

Work and services.

185. *Controlling staff.*—The shortage of officers continues. Two Imperial officers, Messrs. B. F. Rigold and T. Clear, have joined the Indian Army Reserve of Officers. All officers have worked well. Messrs. Minchin, Madan and E. B. Ramachandra Rao—the last in a light charge—may be specially mentioned. Mr. Stracey has also done good work in *West Kurnool.*

186. *Executive establishment—Rangers.*—The work of rangers with a few exceptions is well reported on. *Punishments.*—Four rangers were placed under suspension pending inquiry into their conduct. One ranger who was under suspension during the previous year was dismissed. *Deputy Rangers.*—The applicants are numerous, but most of them are educationally below the standard fixed by the Forest College. The deputy rangers as a whole have done fair work. *Punishments.*—The probationary appointments of two deputy rangers were terminated; one deputy ranger was suspended, one removed from service and one dismissed.

187. *Protective establishment.*—The work and conduct of the establishments with a few exceptions among foresters continued to be inefficient. *Punishments—Foresters.*—Two were dismissed, the services of two were dispensed with, four were suspended and six reduced. *Guards.*—Dismissal 1, removals from service 22, suspensions 38, and reductions 7. One guard in *Vizagapatam* was convicted and sentenced to three years' rigorous imprisonment for forgery and illegal collection of grazing revenue. The total number of forest guards is 318.

188. *Ministerial establishment.—Circle office.*—The change of Managers, Mr. T. Ramanuja Ayyangar having been transferred to this circle, has been advantageous. He knows his work thoroughly.

Divisional and Range offices.—The office establishment is reported to have worked satisfactorily on the whole. The standard of efficiency is however lower than in the Southern and Western Circles.

Want of prospects and the heaviness of the work in forest offices do not attract the best men. It is difficult to arrange for a regular flow of promotion as on the revenue side; the fact that training as a revenue inspector for one year is compulsory for promotion to the senior grades and that the forest head clerks and accountants have to pass departmental tests in the Code, the incremental scale of pay existing in the forest branch are all obstacles. The Collector of Kurnool has evolved with much trouble a scheme for removing these disabilities which has been forwarded to the Board of Revenue for consideration. Unless some such system is introduced, and improved prospects held out, the complaint of inefficiency will continue.

The maximum pay of the range clerks is Rs. 20 and is as a rule reached in three or four years with the result that they have no prospects and their work deteriorates. If it were possible to bring these men on to the regular line also, the standard would doubtless improve.

Punishments.—Two clerks in the District Forest office, *Vizagapatam*, were suspended. One range clerk in *Gōdāvari Lower* was reduced and the services of another were dispensed with.

189. *Health of the establishment and casualties.*—The health of the establishment continued to be bad as usual except in *Kistna* and *Vizagapatam*; in the latter division it was not so bad as in previous years. Several of the subordinates have had to be granted leave on account of malaria. There is, I think, no doubt that the forests in the Northern Circle are unhealthier than others. *Casualties*—One deputy ranger in *Kurnool East* retired. One ranger died of gangrene. There were four deaths each in *Ganjām*, *Gōdāvari Upper* and *Lower*, one in *Kistna*, three in *Kurnool South* and six in *Kurnool West*. One forester in *Kurnool West* was murdered; this apparently had nothing to do with his duties.

190. *Relations between Revenue and Forest officers.*—The relations of Forest with Revenue officers continued to be satisfactory in all divisions. The District Forest officers, *Gōdāvari Upper* and *Kurnool East*, and the Range officers in the former division attended the Jamabandi, but no matters of any importance were dealt with. There was no such attendance in the other divisions; it was not the practice in some of them. In *Ganjām*, it is reported that constant touch was kept with the Revenue Department in matters of material interest.

191. *Service books.*—Maintained and verified up to date in *Vizagapatam* and up to the close of the calendar year in *Gōdāvari Upper* and for the financial year in the remaining districts.

192. *Tours of the Forest Member.*—The Forest Member inspected the Sál forests in *Ganjām* in connexion with the proposal to open a Saw mill at Russellkonda and visited *Kurnool* to discuss with the local officers regarding the allotment of lands for *Donga Wodder* Settlement near the Siddapuram tank and the question of providing employment for the *Chenchus*.

193. *Conservator's inspection.*—All the District Forest offices except *Gōdāvari Upper* were inspected with fairly satisfactory results. The forests of *Ganjām*, *Vizagapatam*, *Kistna* and *Kurnool South* were also inspected and notes of inspections recorded. The number of days spent in camp was 185.

194. *Touring of District Forest officers.*—With the exception of the District Forest officer, *Vizagapatam*, all the others spent in camp more than the minimum period of touring prescribed. The deficit in *Vizagapatam* was only five days.

195. *Audit of accounts of the District Forest offices.*—The accounts of all the offices were audited by the Local Fund Audit staff. The results are reported to be satisfactory.

196. *Inspection of Range offices.*—All the range offices except one in *Kurnool West* and all sale depots were inspected with generally satisfactory results.

197. *The Imperial Forest Research Institute and College.*—One nominee to the Provincial service who was undergoing training in *Ganjām* preliminary to going to the College resigned, a wise decision as his physique was not too good though he was very keen on his work. One probationer returned to this Circle after passing the course with honours.

198. *The Madras Forest College, Coimbatore.*—Three students of the 1916–18 course obtained the higher standard and one student the lower standard certificates. Seven deputy rangers were selected for the 1918–20 course.

199. *The Vernacular Training School.*—The 1918 session of the school was held in *Ganjām*. The school started with 32 students (7 Foresters and 25 Guards) deputed from all the divisions except *Gōdāvari Upper*. The conduct and health of the students was satisfactory. The Conservator visited the school a month before its termination, took the students out once and found them up to the mark. Four of the students did specially well. The District Forest Officer and Ranger P. Ramunni Menon, the Senior Instructor, deserve credit for the results.

Central Circle.

200. Mr. H. B. Bryant was in charge of the Circle from 1st July 1917 to 2nd April 1918 when he went on privilege leave and again from 18th June 1918 to end of the year. Mr. H. F. A. Wood was in charge from 3rd April 1918 to 17th June 1918. During the year proposals for the formation of a fifth circle were called for and submitted to the Board by the Conservators but no final orders have yet been received on the proposal. In his letter No. 54, Revenue, dated India Office, London, the 3rd August 1917, the Secretary of State sanctioned an increase in the Controlling Staff of the Forest Department of this Presidency by the addition to the cadre of ten Imperial Officers including a Chief Conservator and of ten Provincial officers. . . . .

201. *District and range charges.*—There was a readjustment of boundary between the West and North Cuddapah Divisions during the year and sanction was accorded by the Government in their Order No. 938, Revenue, dated 6th March 1918, to class the former division as a major charge and the latter as a minor one.

The *West Cuddapah* division was also further subdivided from four to six ranges under the sanction of Government, the two new ranges being named "Vontimitta" and "Ganganapalle". This subdivision was foreseen in the last circle report and is now an accomplished fact. Consequent on the cancellation of the lease of the Sandur forests in *Bellary* district on 1st July 1918 the present Hospet range has become light and proposals for amalgamating it partly with *Kudligi* and partly with *Bellary* Ranges are under consideration. Proposals for the formation of a third range in *Chingleput* district and a fifth range in *Guntur* district are also under consideration.

202. *Work of superior officers.*—The remarks of the Collectors are given below :—

Mr. T. Raghaviah (Anantapur).—I consider Mr. Myers' work distinctly good. In a poor forest district like Anantapur there is not much to show in the shape of results, but Mr. Myers does his best. He is a sound and experienced officer and has his subordinates well in hand.

Mr. H. G. Gharpurey (North Cuddapah).—As far as I have heard and seen, the administration of the forests at the hands of Mr. Saiyid Abdul Qadir Sahib Bahadur seems to have been satisfactory.

Mr. H. G. Gharpurey (South Cuddapah).—I also found that people had no complaints to make against the forest subordinates in the district as remarked by Mr. Dutt last year, which speaks a great deal for the administrative ability and tact of Mr. Belliappa who was in charge of the district throughout the year.

It is a pity that these good forests are not yet remunerative to any extent.

Mr. H. G. Gharpurey (West Cuddapah).—I took charge of the district only lately i.e., in the month of July; but was assured by my predecessor who had opportunies of watching the work of the District Forest Officer that he considered the work of Mr. E. V. Padmanabha Pillai who was in charge throughout the year as exceedingly satisfactory and commendable.

Mr. L. D. Swamikannu Pillai (*Nellore*).—The chief points where the Land Revenue administration touched questions of Forest Conservancy or where the Collector was specially consulted regarding forest questions have been mentioned in the report and I have no remarks to offer.

Mr. J. F. Bryant (*Chingleput*).—Mr. S. V. Devadasan was in charge of the district throughout the year. He worked honestly and spared no pains to show good results.

Other Collectors have not made any remarks.

203. *Conservator's remarks.*—All the District Forest Officers of the Circle have done their best. Very heavy extra work was thrown on the districts of *Anantapur*, *West Cuddapah*, as also *South Cuddapah*, and to a less degree only on *North Cuddapah*, *Chittoor* and *Guntūr*. These operations (Hay) had to be hastily improvised as a war measure and the best that was possible was done and all officers concerned worked hard to try and make them successful.

Of course, as was expected, such operations on a large scale thrown suddenly on to the already inadequate and depleted forest organization of the Circle have certainly greatly interfered with the ordinary work of the department and in some localities seriously dislocated forest work. The Conservator fully recognizes the difficulties and the extra work with which the District Forest Officers concerned have had to cope in this connexion, and records his appreciation and thanks to them for their efforts.

In *Chingleput* district some very useful progress has been made in improving the forest administration and organization of the district and Mr. S. V. Devadasan the District Forest Officer is commended for his steady work. This district although small has its own importance and in a few years' time should really be brought to form a model minor forest charge if it continues to progress as it has done in the past couple of years. In such a district as this the District Forest Officer has not got more work than he can efficiently cope with and in this respect he is somewhat more fortunate than most of the other District Forest Officers in the Circle.

204. *Executive staff.*—The conduct and work of Rangers and Deputy Rangers is reported to be fairly satisfactory on the whole. It is not at all likely to improve much until the long hoped for but much belated reorganization of this branch of the staff is sanctioned and introduced.

205. *Protective staff.*—The work and conduct of this staff is not at all satisfactory and here too reorganization is urgently called for. Among the foresters 3 were dismissed, 15 suspended, 4 removed from service, 15 reduced and 1 resigned. Nineteen guards were dismissed, 57 suspended, 29 removed from service, 11 reduced and four resigned.

Mr. Fischer the District Forest Officer of *Chittoor* writes " The protective staff is extremely unsatisfactory. I do not remember any district where the foresters, guards and watchers as a whole were of so poor a quality. It would appear that one and all enter the department with the sole object of achieving prosperity by illicit methods as rapidly as possible and with no intention of doing any more honest work than he is compelled to by his Range Officer. "

The Conservator fears that this is a state of affairs by no means peculiar only to the *Chittoor* district and the most crying need towards effecting a change is the introduction of a reorganization scheme which will give these classes of subordinates a decent living wage and a fair average day's work for each man to do. For years past the Conservator has pressed upon the authorities the essential necessity for such a reorganization if it is ever to be hoped that this branch of the staff will carry out its duties to any degree of honesty and efficiency. It is to be sincerely hoped that reorganization will not much longer be delayed.

206. *Ministerial establishment.*—The work is reported to be satisfactory on the whole. The Conservator considers that there is much room for improvement in *Bellary and Nellore*. During the year the control of the District Forest office establishment was re-transferred to that of Collector—vide B.P. Forest No. 107, dated 14th December 1917. The Conservator considers that before many years are passed it will be found essential to provide each Range officer with two clerks, and

also to raise the present pay. Efficient organization will never really be obtained without such an addition. As matters stand now each Range officer is provided with one Range clerk, often as not an utterly raw hand, whom the Range officer has to teach his work from the beginning, and then very often, as soon as the clerk learns something of the work, he resigns. Often a Range officer is left without any clerk at all and has to attend to all the clerical work himself. Under such circumstances how is it possible that a Range officer can attend to his field work properly? He cannot do so, and neither is it reasonable to expect him to do so under such circumstances. As a general rule two Range clerks are necessary in each range one of whom should look after the general correspondence side and the second one the "accounts". The practice of training men to be expert foresters and then forcing them to sit at the office desk for many hours of the day doing clerical work at the expense of their more important outdoor work in the forests is as expensive in the long run as it is unwise. A change is urgently called for in this connexion with the present state of affairs.

207. *Health of establishment and casualties.*—Health of establishment is reported to have been fairly satisfactory; one Deputy Ranger died of carbuncle, two Forest guards died of cholera, and one clerk died of fever. In Kadiri Range of *Anantapur*, one Forest guard, one watcher and one fire patrol were murdered by cattle graziers while out on inspection. The case was thrown out by the Sessions Judge for want of *direct* evidence. One watcher in *South Cuddapah* was murdered by a Policeman on account of some misunderstanding. The Policeman was sentenced to death by the Sessions Judge.

208. *Relations between Revenue and Forest officers.*—Continued to be cordial. It is hardly however to be expected that the lower revenue officials will ever learn to understand the objects of forest conservancy. Some generations hence perhaps things may be different but during the present generation there seems to be but little hope.

209. *Service books* were maintained and verified in all districts.

210. *Conservator's inspection.*—All the District Forest offices were inspected during the year. Some of the forests of *Chingleput* and of Balapalle range, *South Cuddapah* and of *Chittoor* were inspected and inspection notes were submitted for the former two.

The Conservator takes this opportunity of thanking Mr. H. F. Wood for having inspected eight of the District Forest Offices of the circle. This was of great assistance to the Conservator in a year of particularly heavy and strenuous work.

211. *Inspection of Range offices.*—All the range offices were inspected except Vontimitta range of *West Cuddapah* which was only however formed on 1st April 1918.

212. *Audit of accounts of District Forest offices.*—The accounts of all offices except *North Cuddapah* were inspected by the Assistant Inspector of Local Fund Accounts and the general result was satisfactory.

213. *Imperial Forest College, Dehra Dun.*—One provincial probationer was deputed from this circle during the year.

214. *The Madras Forest College, Coimbatore.*—Six Deputy Rangers were deputed during the year out of which two were sent back being unfit to cope with the College course. Three Rangers returned with Higher standard certificates and one with Lower standard certificate. It is becoming increasingly difficult to secure suitable candidates for recruiting the Ranger's grades under present conditions.

215. *Vernacular Training School.*—The school was held at *West Cuddapah* district. The school opened with 29 (8 foresters and 21 guards) but 27 actually underwent training two having been removed. The school was under the Instructor M.R.Ry. A. Ranganayakulu Nayudu and his assistant P. K. Kuttappan Pillai. The District Forest officer is of opinion that the students are of an average class.

Southern Circle.

216. During the year the headquarters of the circle were transferred from *Trichinopoly* to *Salem*, but the move was not actually made as suitable buildings could not be found in Salem.

217. *Circle charge.*—Mr. P. M. Lushington held charge of the circle throughout the year.

218. *Divisional charges.*—The boundary between the *North* and *South Vellore* divisions was altered with the previous sanction of Government. A separate working plan party was formed in this circle in September 1917 with Mr. G. C. Robinson at its head.

Proposals for the redistribution of the present two *Salem* divisions, the *South Arcot* and *Trichinopoly* divisions were submitted to the Board.

It is too early to judge the result of the transfer of Land Revenue Administration of the Tiruppattur Javadi Hill villages from the Land Revenue to the Forest Department.

An establishment consisting of one overseer and three maistris was entertained during the year in Madura for the supervision of the important road system which has to be maintained in spite of many of the roads being outside the reserves.

219. *Range charges.*—The Attur range in *South Salem* division was subdivided into Attur and Thammampatti ranges with effect from 1st October 1917. The Kollimalai reserves of the Attur range were transferred to the control of the District Forest officer, *Trichinopoly*, during the year.

220. *Work of superior officers.*—M.R.Ry. K. R. Venkataramana Ayyar was deputed for six weeks during the year to Northern India for ascertaining the condition of the market as regards sandalwood and sandalwood oil, and the Board has recently passed orders on his report. The Government have been pleased to confer the title of Rao Sahib on him in recognition of good and meritorious services rendered by him. The work of other officers has been good but considerable time has been spent by the European District Forest officers on Military work.

221. *Executive staff.*—The work and conduct of the executive establishment was on the whole good.

One Ranger and one Deputy Ranger were dismissed and one Ranger and three Deputy Rangers were placed under suspension.

222. *Protective staff.*—The work and conduct of the protective establishment has as usual not been satisfactory. There were 185 removals or dismissals, 128 suspensions and 34 reductions in this class.

223. *Ministerial establishment.*—The work of the ministerial establishment is reported to be satisfactory in all districts except *West Vellore.*

224. *Health of the establishment.*—As work is being more and more concentrated on the hill ranges, it is noticeable that absence on leave becomes more frequent.

225. *Casualties.*—One ranger died of erysipelas and one deputy ranger, four forest guards and one watcher of malarial fever. One forester, one forest guard, eight watchers, two range peons and one accountant died of other causes.

226. *Relations between Revenue and Forest officers* were cordial throughout the circle.

227. *Service Books* were maintained and verified in all districts.

228. *Conservator's inspection.*—The Conservator spent 224 days in camp visiting all the districts in the Circle except *South Arcot.* Special inspection notes were written for *West Vellore* and *Tinnevelly* and those for *Madura* are under preparation. He attended the two conferences of Conservators, one in Madras and the other in Coimbatore, the Tanning conference at Dehra Dun in August 1917 and the Spike Conference at Bangalore in October 1917.

229. *Touring of District Forest officers.*—All the District Forest officers spent more than the prescribed minimum period in camp except the District Forest Officer, *North Salem*, whose touring was short by five days owing to ill-health.

230. *Forest Commissioner's tour.*—The Forest Commissioner paid a short visit to the Javadis to see the working of the Malayali village system.

231. *Inspection of Range offices and sale depots.*—All the range offices except one in *North Salem* were inspected during the year by the respective District Forest officers. Sale depots were also inspected.

232. *Audit of accounts of the District Forest offices.*—The accounts of all District Forest offices except *North* and *South Vellore*, *South Arcot* and *Trichinopoly* were audited by the auditors from the Accountant-General's office and the general results were satisfactory.

233. *Imperial Forest College, Dehra Dun.*—One Provincial probationer, Mr. Amir Padsha Sahib, was deputed from this circle during the year.

234. *Madras Forest College, Coimbatore.*—Of five officers deputed to the College for training, four obtained the Higher and one the Lower standard certificate. Seven Deputy Rangers were deputed for the 1918–20 course.

235. *Vernacular Training school.*—The school was located this year in *South Vellore* division and did good work under the Instructor, Mr. B. R. Salisbury, and his Assistant Mr. A. P. McKoy. Only 22 students were actually trained of whom nine were granted first class, eleven second class and two attendance certificates.

Western Circle.

236. The charge of the circle was held by Mr. C. D. McCarthy throughout the year.

District charges.—There were no alterations during the year. *Range charges.*—No changes except certain alterations in the territorial distribution of two ranges in *Central Coimbatore* division.

Establishment.—Four Deputy Rangers, two foresters and ten forest guards were sanctioned on the temporary establishment for the timber operation in *South Mangalore*, for the better protection and working of sandalwood areas in *Kollegal* and *North Coimbatore.*

237. *Superior officers.*—Messrs. Wood and Bourne had heavy working-plans on hand in addition to their divisional work. So had Mr. Lasrado for the latter half of the year. Mr. Sadasiva Ayyar in *North Mangalore* has been energetic in checking sandal thefts. Mr. Longrigg has made a good start in *South Mangalore* and Messrs. Hodgson and Littlewood have been especially energetic in touring. Mr. Narasimha Ayyangar working under Mr. Richmond, got through a good deal of special demarcation under difficult conditions.

238. *Executive establishment.*—The work of rangers with a few exceptions has generally been favourably reported on. *Rangers.*—A. Swamikutty, A. Nicholas and Saiyid Ibrahim Albiz are mentioned specially for good work. Three rangers were temporarily reduced and one suspended.

The work of deputy rangers was on the whole satisfactory. The services of one dispensed with, one was reduced, one dismissed, two reverted and one resigned. The probationary period of eight acting deputy rangers was terminated during the year.

239. *Protective staff.*—The work and conduct of the establishment with the exception of a few foresters were not satisfactory. *Punishments—Foresters.*—The services of four were dispensed with, three were reduced and two suspended. *Forest guards.*—The services of seven were dispensed with, 21 were suspended, five reduced and six dismissed.

240. *Ministerial Establishment—Circle office.*—M.R.Ry. T. Ramanuja Ayyangar, Manager, was transferred to Northern Circle ; the manager of that office who took his place retired shortly after joining. The remainder of the clerical have worked with their usual industry and ability to the satisfaction of the Conservator.

Divisional and range offices.—The establishment of the divisional offices is reported to have worked on the whole satisfactorily. The head clerks of *North Mangalore* and *South Coimbatore* are specially mentioned for good work. The work of the range establishment has been fair except in the *Nilgiris* and in one of the range offices in each of *South Mangalore* and *South Malabar*, where it was bad.

Punishments.—Draughtsman of *Central Coimbatore* was dismissed from service.

241. *Health of the establishment and casualties.*—The general health of the establishment was fair in the two *Mangalores* except in the malarious parts near the ghaut, and bad, as usual, elsewhere except on the *Nilgiris* plateau. *Casualties.*—One ranger, one forester and two guards and one clerk retired ; one ranger and two forest guards

invalided ; four forest guards died ; one forester in *North Coimbatore* resigned owing to ill-health. Several subordinates suffered much as usual from fever and other ailments.

242. *Relations between Revenue and Forest officers.*—The relations were cordial. No complaints of any importance were brought to the notice of the jamabandi officers.

243. *Service books.*—They are reported to have been maintained for all subordinates on the permanent establishment and verified up to the close of the financial year.

244. *Tours of the Forest Member.*—The Hon'ble Mr. M. E. Couchman, Forest Commissioner, visited both the *Mangalore* divisions and *South Coimbatore.* The sandalwood areas of *North Mangalore* were inspected by him with both the District Forest Officers and a Conference, it is said, was held there regarding sandal transit rules.

245. *Conservator's inspection.*—All the District Forest offices were inspected with generally satisfactory results. The Conservator inspected some of the forests of *Mangalore South, North, Central* and *South Coimbatores* and the two *Malabars* ; and also the Araipalayam and Bailur sandalwood working circles in *Kollegal.*

The total number of days spent in camp was 181.

246. *Touring of District Forest Officers.*—All the District Forest officers except *North Coimbatore* did more than the minimum period of touring prescribed. The short touring in *North Coimbatore* was owing to the District Forest Officer's illness towards the close of the year.

247. *Audit of accounts of District Forest offices.*—The accounts of all the offices except *North Malabar, North, Central* and *South Coimbatores* were audited by the Local Fund Audit department. The results are reported to be satisfactory.

248. *Inspection of Range offices.*—All range offices except one in *North Coimbatore* were inspected during the year. The results are reported to be generally satisfactory with five exceptions. The sale depots except those in Coondapoor, Mysore and Nanjangode, were inspected and they are said to be in good order. There was no stock of timber kept for sale either at Mysore or Nanjangode. The result of the inspections of the forest tram line depots in *South Coimbatore* showed serious shortages which have been reported to the Board.

249. *Madras Forest College.*—One ranger and one deputy ranger passed through the college course with honours and three other deputy rangers with higher standard certificates.

Five deputy rangers were deputed for the 1917–19 course, of whom two were sent back for incapacity.

250. *Imperial Forest Research Institute and College.*—One probationer for the Provincial Forest service was under preliminary training in the *Nilgiris* and deputed to the College.

251. *The Vernacular Training school.*—All the 11 students that remained at the close of the 1917 session in *South Coimbatore* were given certificates. One guard in *South Coimbatore* and one forester in *Kollegal* were placed in the first class. The 1918 session was held in The *Nilgiris* and subordinates from *North Malabar, North* and *Central Coimbatore* were also deputed for training. The strength of the school at the start was 25 of whom one died of cholera directly after joining.

CHAPTER VI—GENERAL.

252. *Realization of revenue from the usufruct of toddy-yielding trees, etc.*—The revenue realized from this source was Rs. 33,642 against Rs. 34,449 in the previous year. The difference calls for no special remarks. *Northern Circle.*

253. *Supply of forest produce to meet the wants of people.*—In all divisions except *Gōdāvari Upper* and *Kurnool East,* timber, fuel and bamboo coupes were opened in several places and sold standing to contractors from whom people obtained their supplies at reasonable rates without complaints. The unreserved lands supply the wants in *Gōdāvari Upper.* In *Kurnool East,* timber, agricultural implements, spokes and felloes, and bamboos were collected departmentally by employing *Chenchu* labour and sold to the public in convenient lots. The villagers obtained fuel in sufficient

quantities from unreserved lands. Four bamboo coupes were also sold standing. In *Gōdāvari Lower*, fishermen were allowed to remove fuel from the mangrove forests of Kandikuppa and Coringa as usual at fixed rates.

Forest Committee's recommendations.

254. (*a*) *The formation and working of the forest panchayats.*—In *Ganjām*, the attempt to form a panchayat for Sondosolia reserved forest fell through as the neighbouring villagers regarded the scheme with indifference and apathy and did not desire to take up the responsibility. The proposal to form a panchayat for Yerragondapalem reserve with an area of 9,054 acres in *Kurnool East* was sanctioned and the forest was handed over to its management after the close of the year. In *Kurnool West*, the panchayat management for Gundlakonda reserved forest, 4,476 acres, was proposed, and sanctioned after the close of the year. In *Kurnool South*, the question of forming a panchayat for Yadavada reserved forest, 1,142 acres, was gone into, but the proposals have yet to be formulated. *Kistna.*—Four reserved forests covering an area of 5,589 acres were managed by 12 panchayats. The District Forest Officer inspected these areas during the year and three of the forests are reported to have been managed well. Nothing is mentioned about the working of the panchayats for Velagalapalli reserved forest and Gunadala reserved land (400 acres).

(*b*) *Opening of small coupes for rural supply wherever an effective demand exists or can be stimulated into existence.*—There was no necessity for opening such coupes in *Gōdāvari Upper* where there is a vast extent of unreserved lands which meet the requirements of the people. In *Kurnool South*, the opening of small coupes is a difficult matter as the Nallamalai forests, which form the main forest tract of the division, are remote from the centres of demand. It is hoped to remedy this soon. In the other divisions, coupes were opened and sold to contractors to meet the demand wherever it existed.

(*c*) *Measures adopted for improving the water-supply in Government grazing grounds and the facilities for grazing and pasturage.*—No special measures are required in *Ganjām*, *Vizagapatam* and *Gōdāvari Upper* as there is sufficient supply of water near grazing grounds. Two tanks in each of *Gōdāvari Lower* and *Kurnool East* and one in *Kurnool South* were repaired and deepened. Nothing was done in *Kistna* and *Kurnool West* owing to the financial restrictions; in the former district, there was sufficient supply of water owing to heavy rains. In *Kurnool West*, two private parties repaired two tanks in forests with a charitable purpose, the permission for executing the repairs was granted on the express condition of their not claiming any right to the tanks repaired. This had induced some others also to come forward for undertaking similar repairs and the tendency is being encouraged.

(*d*) *System of patrol by a gang of subordinates.*—The system was in force in all divisions except *Gōdāvari Upper*, where it was not introduced. The system is now worked on two different lines in this circle. *Kurnool East* writes as follows of the first system (which is also in force in *Kurnool South*) :—" Under the patrol system a number of the old beats have been clubbed together and placed in charge of one patrol officer. Consequently, the area which the patrols have to look after is so large that they cannot possibly return to their headquarters for more than two or three days in the week in consequence of which they have to buy food from the hotels [*sic*]. Thus it will be observed that the greater part of the pay of a subordinate is spent on purchasing meals for himself. Besides, living apart from their families has made the guards and forest watchers more immoral, nay, a subordinate who happens to fall ill in a strange place has none to look after him. Under these circumstances, the posts of forest guards and forest watchers are not as attractive as they were once before." The results are however stated to be satisfactory.

Under the other system, the one recognized by the Forest Code, the forest guards and watchers are posted to beats three or four of which are under a deputy ranger or forester who when he wants a gang for any particular purpose takes the men with him. This system, an innovation, is in force in *Ganjām*, *Vizagapatam*, *Kistna* and *Gōdāvari Lower* and to take *Ganjām* as an example, the gangs have cleared creepers over 14,000 odd acres of *sâl* forest.

Rules under the Forest Act.

255. (*a*) *Timber transit rules.*—The rules are reported to have worked satisfactorily in all divisions.

(*b*) *Rules under section* 26 *of the Forest Act.*—The rules are reported to have worked satisfactorily and the privileges conferred by them availed of without complaints except in Goomsur taluk, *Ganjām*, where people have still to learn that the felling of classified trees is prohibited. The unreserved lands were managed by the Forest department only in *Gōdāvari Upper* and the area of such lands was 427 square miles.

(*c*) *Other rules.*—The rules for the collection and disposal of drift timber in the *Gōdāvaris* and those under the Forest Act for the management of the Vizianagram and Jeypore estates and of the estates in *Kistna* are reported to have worked well. The rules for the timber transit on the river Godavari are found defective so far as they relate to the transport of timber from foreign territory to the destination within the period allowed and to the details regarding the checking of permits. They are under revision. Owing to the wrong interpretation of the rules regarding the authority competent for granting extension of time for transport of timber from foreign territory, one of the permit holders was fined heavily and the mistake has since been rectified.

256. *Hill tribes.*—In *Ganjām*, the assistance of the *Khonds* was, as usual, enlisted in the general and fire protection of forests and in return they were allowed to remove free materials for repairing their houses and fuel and minor produce for domestic consumption. Some of the *Khonds* were also rewarded by presents of rice and cloth in recognition of their good services. The hill tribes in *Vizagapatam* availed themselves of the privileges without abuse. The *Koyas* and *Reddis* in *Gōdāvari Upper* are reported to have done good work in clearing fire lines and protecting forests from fire and were paid wages for the labour and given money rewards on the results of protection. The same tribes in *Gōdāvari Lower* also were, as usual, employed in the general and fire protection of forests and on departmental works such as construction of roads and buildings and demarcation of forests They are reported to take much interest in the protection of forests. *Chenchus of Kurnool.*—In the *East* division, the *Chenchu* labour was mostly engaged on exploitation and protection of forests and on construction of roads, demarcation of forests and the bunding of streams. Some of them were also entertained as guards and watchers. They are reported to have behaved satisfactorily with a few exceptions. The amount of wages earned by them during the year is reported to be Rs. 21,777. In the *South* division, they were employed mostly on fire protection. The Special Chenchu officer's work was mostly confined to the residents of the *West* division where there are nine gudems. With some exceptions, the *Chenchus* of these gudems are reported to have behaved fairly well. They were employed chiefly on the extraction of bamboos, collection of minor produce, cultural and fire protection operations and bunding of streams. The wages earned by them on forest works amounted to Rs. 21,325. Some of them were also engaged in agriculture under the supervision of the Special officer, but have much to learn. Their work on clearing fire lines is also reported to be very poor.

257. *Cultivation in reserved forests.*—In *Ganjām*, eight acres of land in Kriamba reserved forest were assigned to *Khonds* at the close of the year for dry cultivation after clearing bamboos and other inferior growth on condition of their restocking the area by planting red sanders and other valuable species within a prescribed time. This has been started as an experiment and if the results are successful, much of the non-sal areas which are at present stocked with inferior species can be regenerated. In *Kurnool East*, about 67 acres free of assessment and 115 acres on an annual assessment of two annas per acre were given to the *Chenchus* for cultivation in which they are reported to take much interest The *Sugalis* continued to cultivate the 38 acres of land assigned to them in previous years. The above grantees are to render services in extinguishing fires. Twelve acres of land were also given to the Police talaiyaris for cultivation. In *Kurnool West*, small plots of land aggregating 37 acres were cultivated under the supervision of the Special officer by employing *Chenchu* labour. The expenditure incurred amounted to Rs. 1,138 and the harvest was fair except in one place.

258. *Mining and quarrying.*—Two new licences were granted to Mr. Ghose of Gooty for prospecting barytes in the Kamalapuram and Betamcherla reserved forests in *Kurnool West.* The results have not been reported.

LIVE AND DEAD STOCK.

259. (*a*) *Elephants.*—Seven elephants were maintained in the circle for baggage. Their condition and health was fairly good.

(*b*) *Other animals.*—Six buffaloes were purchased in *Ganjām* for dragging logs, two in *Kurnool East* for carrying water and four donkeys in the latter district for dragging bamboo splits; one of the buffaloes in *Kurnool East* died. Of the 18 bullocks on hand in *Kurnool West* at the commencement of the year, one was killed by tiger. Ten of the remaining bullocks were used by the Special Chenchu officer for cultivation by *Chenchus.*

(*c*) *Inventory of valuable stock.*—Stock registers were maintained and verified at inspections. The value of live and dead stock at the close of the year was Rs. 16,032 and Rs. 3,79,062 respectively.

260. *Rain gauges.*—Maintained and readings recorded.

261. *Suits.*—In *Gōdāvari Lower*, a civil suit against the Government in connexion with the imposition of fine under the River Timber Transit rules was pending.

Central Circle.

262. *Realization of revenue from the usufruct of toddy-yielding trees on Government wastes and poramboke lands.*—Rupees 91,976 was realized during the year against Rs. 56,291 of previous year. The increase was chiefly in *Bellary*, *South* and *West Cuddapah* districts.

RULES UNDER THE FOREST ACT.

263. *Timber Transit rules*, are in force in *Guntūr*, the three divisions of *Cuddapah*, and portion of *Chittoor*, and are reported to have worked satisfactorily. In the *West Cuddapah* district the extension of the rules is under correspondence with the Board and revised Transit rules for *Chittoor* district were submitted to the Board in October and are pending approval and sanction. The Conservator considers that in all districts which have forests of value transit rules are necessary if efficient check of removals of forest produce is to be rendered possible.

264. *Rules under section 26 of the Forest Act*, are reported to have worked satisfactorily and no complaint or abuse was brought to light.

265. *Inventory of valuable stock.*—The stock registers are reported to have been maintained and verified in all districts except *Nellore* where it is now reported that there is a certain amount of confusion in regard to the stock of two ranges, viz., Nellore and Sriharikota. The District Forest Officer is giving this matter his attention.

266. *Rain-guages* were maintained in all districts except *Anantapur*, *South Cuddapah* and *Chingleput.*

267. *Cultivation in reserved forests with a view to afforestation.*—In *West Cuddapah* the cultivable area in Gandur tope was leased out for thirty years' cultivation and in *Nellore* a small portion of Amancherla reserved forest was given for cultivation to Police ghaut talaiyaris of Podalakur.

268. *Specimens.*—In *Guntūr*, two bottles of the essence of Ponna (*Calophyllum inophyllum*) and Gadiri (*Erythroxylon monogynum*) used for colouring nets were sent to the industrial exhibition held in December in Madras.

Six bags of *Zizyphus xylopyra* (720 seers) and five maunds and 30 seers of *Anogeissus latifolia* bark, were sent to the Controller of Tanning Stuffs, Madras, in April and June 1918, respectively. Eighty-six yepi or *Hardwickia binata* billets (1 ton and 110 lb.) were supplied to the Deputy Controller of Timber Supplies, Bombay, in June 1918.

From *North Cuddapah*, 160 lb. of fruits of *Zizyphus xylopyra* and 164 of lb. twig bark of *Phyllanthus Emblica* were supplied to the Controller of Tanning Stuffs.

In *South Cuddapah*, some herbarium specimens and specimens of different grasses were collected from Seshachellam Hills by the Sub-Assistant to the Government Lecturing Botanist; 280 lb. of twig bark and 392 lb. of trunk bark of *Anogeissus latifolia* were supplied to the Controller of Tanning Stuffs, Madras. Sixty red sanders billets were cut and supplied to the Deputy Controller, Timber Supplies, Bombay.

In *West Cuddapah*, 37 candies of twig bark of *Anogeissus latifolia* were supplied in May and June 1918 to the Controller of Tanning Stuffs, Madras.

In *Nellore*, 310 lb. of *Zizyphus xylopyra* were collected departmentally for supply to the Controller of Tanning Stuffs, Madras One bag of twig bark of *Phyllanthus Emblica* was collected departmentally and despatched to the Controller. Also 157 lb. of *Anogeissus latifolia* were collected in Nellore range and supplied at Rs. 1c per candy as per Controller's rate sanctioned.

In *Chingleput*, at the instance of the Controller of Tanning Stuffs 1,136 lb of bark of *Anogeissus latifolia* and three bags of green sumac were extracted experimentally from Madayathur coupe I and supplied to him.

In *Chittoor*, 378 lb. of *Carissa spinarum* and 200 lb. of fruit of *Zizyphus xylopyra* were supplied to the Controller of Tanning Stuffs, Madras.

269. *Suits.*—In *North Cuddapah*, the suit filed against the shrotriyamdar of Musalreddipalle Agraharam which was pending in the Nandalur District Munisif's Court was disposed of against the Government.

The suit filed against Government by the owner of the land through which the footpath and a cart track run through Kodur Plantation, ended in compromise. A coupe contractor failed to pay the lease amount, disposed of his property and evaded payment. A petition was filed in the District Court, Cuddapah for cancellation of the sale-deed of his property but it was dismissed Proposal for an appeal to the High Court is under consideration.

In *Nellore*, the suit filed by the Raja of Venkatagiri for a portion of Nandanavanam reserve was disposed of in favour of Government with costs.

The suit filed by the shrotriyamdar of Turravaripalem referred to in the last report is still pending

The two claims preferred to the areas in the Udayagiri Veligondas referred to in the last report are still pending verification of boundaries by the Land Records Tahsildar.

270. *Live stock.*—There are three buffaloes in *Chittoor* district maintained for gardening purposes at Horsleykonda Camp. There is no other live stock maintained in the Circle.

271. *Mining.*—In *Bellary* the application of Mr. A. Ghouse for prospecting licence referred in the last report was refused.

A prospecting licence for prospecting black earth in S. Nos. 103 and 148 of Gundlavaddageri and S. No. 338 (part), of Papinaikanhalli in Hospet range aggregating an area of 1,299 acres was issued to Messrs. Cursetjee Muncherjee & Sons, of Bombay, for a period of one year from 22nd May 1918, the surface rent payable being Rs. 325. Another for prospecting red-oxide over an area of 854 acres in Jumbanathahalli, Hospet taluk, was granted to the above merchants for one year from 22nd May 1918 for a surface rent of Rs. 214.

The report on mica mining in *Nellore* is excluded from this report in accordance with B.P. Forest Rout. No. 1107, dated 22nd August 1918.

RECOMMENDATIONS OF THE FOREST COMMITTEE.

(*a*) *Classification of forests.*

272. The classification is complete in all districts. In *Anantapur* district the newly reserved Yerrakonda Extension II was classed as IV in B.P. Forest Mis. No. 243, dated 27th August 1917. Kekati reserved forest was re-classified from Class V to IV in B.P. Forest No. 37, dated 2nd February 1918. In *Guntūr* there were certain revisions of the classification—vide B.P. Forest Mis. No. 265, dated 25th September 1917, Mis. No. 300, dated 30th October 1917 and Mis. No. 373, dated

18th December 1917. In *North Cuddapah*, the Kondur and Venkatapuram topes along with three others which were handed over to the Revenue Department in B.P. Forest No. 71, dated 12th May 1915, were re-transferred to the Forest Department in B.P Forest Mis. No. 298, dated 29th October 1917.

Although the classification is reported to be complete, it is expected that further revision will prove necessary in some of the districts

(b) Constitution of forest panchayats.

During the year two panchayats were newly formed in *Bellary*, two in *Guntūr*, one in *West Cuddapah* and in *Chingleput*. Two were renewed in *Bellary*, 28 in *Guntūr*, 18 in *West Cuddapah* and two in *Nellore*. Eleven were dissolved in *Bellary*, one in *Anantapur*, one in *Guntūr*, one in *Chingleput* and two in *Chittoor*.

As a special report on the working of the panchayats is submitted to Government annually by the Board there seems no necessity to go into this matter in detail in this report. The panchayats are mostly reported to have worked satisfactorily on the whole. Perhaps this may be so and the Conservator hopes it is, but must confess to being somewhat sceptical on the point.

The Collector of Chittoor writes as follows :—

"These panchayats were started hastily by a Special officer in 1915. Too many were formed. The areas were not well distributed among the villages. Owing to there being too many of them they have not been properly inspected during the last three years by the Tahsildars and Divisional Officer. The Tahsildars concerned have heavy charges. Further Mr. Sathe never, to my knowledge, inspected any one of the areas in company with the Divisional Officer and no Ranger ever, to my knowledge, accompanied either a Tahsildar or a Divisional Officer on inspection. Hence the revenue officers, not being properly instructed themselves could not properly instruct the panchayatdars even if they had time to educate so many panchayats, which they had not. Mr. Sathe's attitude to the panchayats was one of undisguised hostility. I consider that the number of panchayats should be reduced and the remainder given another chance."

The Conservator would remark that the Collector seems to be of the opinion that it is the duty of the District Forest Officer and the Range officer to instruct the Divisional Officer and Tahsildars who in turn are to educate the various panchayats as to how they are to manage their reserved forest panchayat areas. Apart from the fact that neither the District Forest Officer nor his range officers have time to run after Divisional Officers and Tahsildars to educate them in panchayat management, it is evident that very little notice was taken in Chittoor on the reports of inspections made by either the District Forest Officer or his Range officers. The Conservator agrees that it is advisable for joint inspections to take place at times by both sets of officers, for unless this is done, whatever the Range officer may report, the Tahsildar will report the exact opposite. To effect this, however, the officers must approach each other and arrange for joint inspections and this they have not done, although the Conservator understands in one case after the District Forest Officer actually arranged for a joint inspection with the Divisional Officer the latter failed to turn up.

As a matter of fact most of the panchayats in Vayalpad and Madanapalle taluks have sought to get as much out of the panchayat areas as possible and have allowed in many places huge herds of goats, so much so that in some places the reserves now look even worse than the surrounding unreserved land does. In these taluks where there is an abundance of unreserved land all being rapidly denuded of tree growth, the formation of panchayats ought not to have been rushed forward as it was in this goat infested country. The Forest Commissioner has asked the Conservator to submit a special report on the subject of panchayats in these two taluks and this will be shortly done. The Forest Commissioner has himself seen the damage done in some of these panchayat areas, and the damage will continue as long as the panchayats in these parts exist.

(c) Opening of fuel coupes for rural supply.

Coupes have been opened wherever there is demand and they were generally leased out to contractors for felling as usual.

(d) The patrol system.

The special patrol system which is in vogue in the three *Cuddapah* divisions is reported to work satisfactorily.

(e) Inducement to villagers to aid in forest conservancy.

The kancha system of grazing has already been introduced in *Nellore* and *Chingleput* and is working satisfactorily. In *Anantapur* and *North Cuddapah*, certain reserves were closed to grazing and free removal of grass as the villagers failed to respond when called upon to render help in putting out fires. The concession of free removal of grass by the villagers at foot of the Yerragondas and Veligondas in *Nellore* district from the hills on condition of preventing fires was continued during the year.

(f) Improvement of water-supply and grazing facilities in Government grazing grounds (B.P. Forest No. 125, dated 29th June 1914).

In *Guntūr*, permission was granted for sinking a well and two kuntas and for repairing three existing kuntas. In *North Cuddapah*, a masonry trough for men and cattle was constructed in Loddabanda in the Lankamalais, Vonipenta range and three wells were repaired. In *Chingleput*, for the improvement of grazing-grounds in the six special working circles of Chingleput range, prickly-pear and thorny growth were removed in order to endeavour to increase pasture in accordance with the provisions of the working-plan.

(g) Sale of plantations.

In *Bellary*, 913·73 acres of plantation in Kowtalam, Halaharivi and Rayachoti B-II reserves were sold. In *Guntūr*, 251·36 acres of casuarina plantation were sold.

273. The *war work* carried out during the year was—

In addition to supply of hay referred to in paragraph 27 supra arrangement for the supply of the following were made through agency of contractors :—

(1) Lance staves.
(2) *Anogeissus* bark and leaves.

The control of collection of tangedu and other tanning materials was transferred under Government orders to the Controller of Tanning Stuffs, the department receiving in revenue the average amount realized during the five years previous to the war.

The different kinds of produce sent to the Controller are detailed in paragraph 58 under "Specimens."

274. *General.*—In last year's report the Conservator respectfully invited the serious attention of the Board and Government to the present unsatisfactory state of affairs in the department and urged the essential necessity of re-organizing the whole Forest establishment in this Presidency. He desires to respectfully repeat the same invitation now. The war has thrown a great deal of increased work on the already utterly inadequate and depleted organization of the department, and although the staff has done its best to cope with the extra work, its ordinary duties in forest work have perforce being seriously interfered with and dislocated in certain localities.

The "Constant state of struggling inefficiency," as the Hon'ble Mr. W. O. Horne so aptly represented the condition of affairs some years ago, becomes yearly more marked than ever, and it is bound to continue to do so until reorganization so long discussed and referred to becomes an accomplished fact, and even then it will take years of strenuous work to make up the ground which has already been lost.

It must here also be stated that there are a few signs existing which give hope for a better state of things. In B.P. No. 2 of 16th January 1918, the Board communicated the sanction of the Secretary of State to a reorganization of the controlling staff involving an increase of ten Imperial Forest officers including a Chief Conservator and ten Provincial officers, but this however has not yet been brought into force.

It is moreover understood that a reorganization scheme for the subordinate services has also been submitted to the Government of India for approval and sanction of the Secretary of State, and it is to be hoped that the latter may soon be obtained. It cannot be said that either of the above schemes will have come before it was really needed. It is not, however, with the past that the department is now concerned; it is with the present and the future. There can be no doubt that very great expansion is ahead of the department. There can also be no doubt that the small organization of the department in this Presidency, built up so laboriously in past years has been strained at times almost to breaking point during the past few years. The Conservator trusts that Government will now and henceforward show more confidence in the department and by obtaining a generous increase in numbers, pay, and prospects, of the various branches which compose it, give the means of supplying this Presidency before many more years are passed with an efficient, fully-equipped and uptodate forest organization, which will be not only willing but able to deal with all the various and important forest problems and questions of the day, as well as make rapid progress in the economic and industrial development of the valuable State forests entrusted to its care, the potential resources of many of which remain almost untouched at the present day.

The war and the formation of the 'Munitions Board' have made it, the Conservator believes, already more generally understood what an important part the Forest Department plays in supplying 'Munitions' and materials for war purposes and so will it be when peace comes in the matter of various supplies to the peoples of the empire. There is no department in this Presidency which was less prepared or able to meet the extra strain thrown upon it by the war than that of the Forest Department. Hence it is that the department has felt the strain so much during the past year—*Nil desperandum*: *Meliora speramus*—for in the joint report on Indian constitutional reforms by the Right Honourable the Secretary of State for India and His Excellency the Viceroy, the following words find place :—

"Her forest wealth is immense and much of it only awaits the introduction of modern means of transport, a bolder investment of capital and the employment of extra staff: while the patient and laborious work of conservation that has been steadily proceeding, joined with modern scientific methods of improving supplies and increasing output, will yield a rich harvest in future."

Southern Circle.

275. *Realization of revenue from the usufruct of toddy-yielding trees.*—A sum of Rs. 15,852 was realized under the head against Rs. 14,763 in the previous year. The fixed fee system continued to be in force in all the districts except *Madura* and *Tinnevelly*. In *Tinnevelly*, besides the rent collected on patta palmyras, the palmyras in three new blocks in the Teri reserve which do not contain patta trees were leased out from 1st April 1918 for a period of ten years at Rs. 1,810 per annum. Sanction has since been obtained for the acquisition of 1,600 patta palmyras in two survey numbers in the Teri reserve which should enhance the value of the reserve and reduce the chance of friction.

276. *Measures adopted to encourage the growth of manure leaf yielding trees and shrubs.*—No operations were undertaken by the department during the year. Except in *Tinnevelly* removal of green manure is no longer permitted from the reserves in this circle.

277. *Grant of cowles for the formation of casuarina plantations in sandy areas.*—The planting of casuarina and cashew in the disafforested lands in *South Arcot* continued to be satisfactory.

278. *Cultivation in reserved forests.*—Last year's leases were renewed in *South* and *West Vellore*, *North* and *South Salem* and *Trichinopoly*. The cultivation of lands on the Palnis, under muchilikas, with cardamom, coffee and plantains continued in *Madura*.

279. *Improvement of water-supply in State forests.*—Four hundred and thirty-one bunds were constructed at a cost of Rs. 341 in the Mordana reserve of *North Vellore*. In *South Salem*, the Malayalis of the Chitteris constructed 190 bunds at a cost of Rs. 95. In *Trichinopoly*, the bunding work is said to have been taken up in four reserves, but no details of the number of bunds constructed have been given.

Judging from the amounts spent the work seems to have been done in a desultory fashion. In *South Arcot*, six tanks in the reserves were repaired at a cost of Rs. 203 and four tanks were put in order by private agency.

Owing to fever very little progress was made in the construction of tube wells on the Javadis by the Agricultural Engineering Department.

Boring was completed in Mandaparai but unfinished in Nadanur, Komattiyer and Naickaneri.

280. *Supply of forest produce to meet the wants of the people.*—This was attended to generally by coupe contractors in accordance with the terms of their agreements. The system of issuing permits for babul trees required for agricultural implements continued in *Tinnevelly*.

281. *Sale of fuel at the edge of the forests* was attended to by contractors.

282. *Arrangements for the transfer of sale depots to private agency.*—The contract system having established itself, the contractors maintained depots in all the important towns and villages.

283. *Free removal of grass.*—This has been alluded to in paragraph 30 supra.

284. *Hill tribes.*—The Malayalee forest village system has been successfully established in the West and South Vellore divisions and all forest works within the village limits are being carried out through the Malayalee co-operation. In the Chitteris of *South Salem*, the Malayalees continued to work well with the exception of two villages. This system has not yet been extended to the Javadis of *North Vellore*, the Kalroyens, Pachamalais and Kollimalais where it is much needed.

In those hills the Malayalees give some assistance in forest work, more especially on fire protection, but work is not on organized lines. It is very regrettable that Ponakad cultivation is still allowed to persist in the Kollimalais and Pachamalais of the *Trichinopoly* district.

285. *Prospecting licences.*—Nil.

286. *Timber and Sandalwood Transit Rules.*—The rules are reported to have worked satisfactorily in those districts where the rules were in force. Sandalwood transit rules were introduced in *South Arcot* during the year. Only six cases were prosecuted under the rules of which three were convicted and three are pending.

287. *Rules under section 26 of the Forest Act.*—The privileges allowed under these rules were availed of by the people and the rules worked satisfactorily.

288. *Control of unreserves by the Forest Department.*—The transfer to the Forest Department of the land revenue administration of 32 hill villages in the Tiruppattur Javadis was completed during the year. A similar proposal to transfer the Yelagiri unreserves has been postponed till some experience is gained of the working in the Tirupattur Javadis and till the forest staff has been strengthened.

The work in the Tiruppattur Javadis of delimitation, assignment of unobjectionable lands for cultivation on patta and the extinction of all sivoijama cultivation is being proceeded with. The revenue administration practically began in the middle of September 1917, but the Deputy Ranger appointed was mainly engaged in the collection of land revenue and measuring up sivoijama cultivation and realized Rupees 3,895 against Rs. 3,124 in the previous year.

289. *Rules regarding the levy of composition fees* were observed.

290. *Arrangements made in holding the villagers adjacent to particular forests responsible for the protection of those forests by dividing the village and blocks of forests concerned.*—No progress has been made with the plains village system except in *South Vellore* where a complete scheme has been prepared for the Tiruvannāmalai range to be introduced from 1918–19.

LIVE AND DEAD STOCK.

291. *Inventory of valuable stock.*—Stock registers were maintained and verified at inspections. The total value of the dead stock in the circle at the end of the year was Rs. 4,36,632 against Rs. 3,84,001 in the previous year.

292. *Rain-gauges.*—Readings were recorded in all the raingauge stations.

293. *Specimens—South Vellore.*—Some specimens of Erythroxylon monogynum (false sandalwood) tested for their oil value by Mr. Mohan Singh of Madras were found to yield only ¼ per cent.

PREVIOUS YEAR'S SUITS.

294. *South Salem.*—An appeal has been preferred to the District Court against the judgment of the Revenue Divisional Officer deciding the ownership of the range of hills known as the Neyyamalais in favour of the mittadar.

Trichinopoly.—The suit by the Kulittalai pattadar in the District Munsif's Court was decided against Government and an appeal was preferred to the District Court.

Madura.—Of the two suits referred to in the previous year, the one filed by D. P. Rama Rao for lands included in Kallar reserve ended in favour of Government and the other filed by K. Peddan Chetti is still pending.

Tinnevelly.—The Kuttalam waterfall appeal which was pending in the Privy Council ended in favour of Government.

295. There were no new suits during the year.

INSPECTION OF FRONTIER BOUNDARIES.

296. During the year, the Madura-Travancore boundary from Bombadi Shola to the tri-junction of Travancore with *Coimbatore* and *Madura* districts was inspected and found to be in good order. It is demarcated with stones and a lockspit part of the way, but there is no lockspit at the Coimbatore end, the ground being exceedingly rocky and precipitous.

PANCHAYAT SYSTEM.

297. *North Vellore.*—Thirty-eight panchayats were formed for twelve reserves and were at work.

South Arcot.—Panchayats for eleven reserves in *South Arcot* and Muthupet reserved land in *Tanjore* were at work during the year, in all of which the working was satisfactory except in Muthupet. The total number of reserves for which there were no panchayats was ten at the end of the year. Panchayats for four reserves have since been formed.

South Salem.—Panchayats were working in all the class V reserves except three.

Trichinopoly.—Thirty reserves were under panchayats during the year and one reserve which was under panchayat management was ordered to be disafforested. Five reserves have still to be made over to panchayats.

Madura.—Panchayats were sanctioned for four reserves but were handed over only in 1918–19.

No new panchayats were formed during the year in *Tinnevelly*, *North Salem*, *South* or *West Vellore*.

298. *Patrol system.*—The system was continued in the districts of *North Vellore*, *South Arcot* and *South Salem* and in one range in *Trichinopoly*. The want of establishment is felt to stand in the way of its success.

Western Circle.

299. *Realization of revenue from the usufruct of toddy-yielding trees, etc.*—Revenue from this source was realized chiefly in the two *Mangalore* divisions and *Kollegal* and amounted to Rs. 1,637 against Rs. 1,066 in the previous year. The right to extract toddy from one of the ranges in *South Coimbatore* was leased out for Rs. 60.

300. *Measures adopted to encourage the growth of manure-leaf yielding trees and shrubs.*—No action was taken in this direction nor was any required, as the demand was met from private forests, and patta and unreserved lands.

301. *Supply of forest produce to meet the wants of the people.*—The concession of free removal of grass for thatching and fodder was, as in previous years, continued in *Mangalore* divisions and was not abused. In *South Mangalore* timber fuel, and bamboos in the Bundar depot and timber in the backwaters at Kasargod were sold by

auction. The private forests and unreserved lands supply all wants in *Malabar*. In *The Nilgiris* the issue of permits for small timber, fuel and bamboos to the ryots was continued ; the Badagas got their fuel at the usual nominal fee of Re. 1 a house per year. The public in Ootacamund and Coonoor were supplied with firewood and charcoal departmentally as were the large military depots at Wellington and Keti. *Kollegal* contractors purchased fuel from the department and retailed in depots opened in *Kollegal* town. The demand for fuel outside *Kollegal* town is small and is met from the unreserves. In the other three divisions of *Coimbatore* the supply of forest produce was left to the contractors and there were no complaints. Small timber and agricultural implements were retailed from forest depots in *North Coimbatore* and brakepoles were sold to the cartmen frequenting the ghatroads in the *North* and *South Coimbatore* divisions. The removal of brushwood in head loads from coupes under working was continued in *The Nilgiris* and *Central Coimbatore*.

302. (*a*) *The working of the Forest Panchayats—Reserved forests.*—A portion of Bolampatti Block I in *Central Coimbatore* was handed over for panchayat management and two panchayats managing an area of 1,803·10 acres were formed during the year. The formation of one more panchayat in *Central Coimbatore* was sanctioned but the people of that village were unwilling to take it up. The areas managed by panchayat are as shown below :—

District.	Number of reserved forests managed by panchayats.	Area in acres.	Assessment imposed.	Number of panchayats managing the areas.
			RS.	
Mangalore, North	1	89·34	..	1
Central Coimbatore	8	6,244·35	1,249	14
South Coimbatore	6	3,438·83	485	3
Total ..	15	9,772·52	1,734	18

Reserved forests.—The work of panchayat in *Mangalore, North,* is reported to be satisfactory ; while in *Central Coimbatore* the work was found to be unsatisfactory. The Collector of Coimbatore remarks that in any case these areas are not worth retention by the Forest Department. The Dalavoipattanam panchayat in *South Coimbatore* is reported to have managed the forests satisfactorily and improvements done by the panchayat are : (1) putting a stop to illicit thefts and (2) clearing of prickly-pear in the forest. The work of the other two panchayats in the division is not well reported on.

Unreserves.—Two small patches of unreserved lands near Udipi and Karkal in *Mangalore, North,* and the Andiyur and Nagalur unreserves in *North Coimbatore* were also under the management of panchayats. The work of these panchayats is reported to be unsatisfactory. The unreserves in *South Malabar* were handed over to the Revenue Department as the villagers were not willing to form a panchayat.

(*b*) *Opening of small coupes for rural supply wherever an effective demand exists or can be stimulated into existence.*—There is no demand for such coupes in all the divisions except in *North Coimbatore*, as the demand is met from the coupes sold to contractors, from private forests and unreserved lands. In *North Coimbatore* in addition to the coupes of previous year, two new bamboo and fuel coupes were opened during the year.

(*c*) *Measures adopted for improving the water-supply in Government grazing grounds and the facilities for grazing and pasturage.*—There is no necessity for adopting these measures in the West Coast districts and in *the Nilgiris*. In *Kollegal* and *North Coimbatore* nothing could be done for want of funds. In *Central Coimbatore* the forests are generally within easy reach of the villages and the cattle are watered at the village wells ; and in *South Coimbatore* nothing was done.

(*d*) *System of patrol by a gang of subordinates.*—This system is not necessary in *Malabar* and in two ranges in *South Coimbatore*. In the other two ranges of the latter division the Range officers made very few patrols during the year. In *Kollegal* no attempt was made in this direction. Six new patrol sections were formed in *Central Coimbatore* but it is reported that the patrols could not be properly controlled

by Range officers who have far too much other work to do as it is. This system was not introduced in the two *Mangalore* divisions and in *The Nilgiris* owing to the paucity of establishment. In *North Coimbatore* this system was tried in one range, as systematic theft of fuel was bad in that range.

303. *Grant of cowles for the formation of casuarina plantations in sandy areas.*—Nil. There are no areas suitable for the purpose in this circle.

304. *Rules under the Forest Act*—

(*a*) *Timber Transit Rules.*—The rules in *South Kanara*, *Malabar* and *Coimbatore* worked satisfactorily.

(*b*) *Rules under section* 26 *of the Forest Act.*—These rules worked satisfactorily and no abuse was brought to notice during the year.

(*c*) *Other rules.*—The Sandalwood Transit Rules continued in force in *Kollegal* and *North Coimbatore* and worked well. The rules for *South Kanara* are being revised by Government. A special staff has been sanctioned on temporary establishment to check the illicit removal of sandalwood in *North Mangalore*. In *The Nilgiris* a scheme to control the sandal in waste lands is being adopted. The shooting rules in *The Nilgiris* underwent no change and the Fishing Rules, with slight modifications, were re-notified for another year.

305. *Hill tribes.*—The Kudubies in *North Mangalore* provided labour for the departmental works and were, in return, given lands in the ghat slopes for kumeri cultivation. In *South Mangalore* kumeri passes were not issued to the Mahrattis who are being given work by the department instead. The male-kudubies in the Uppinangadi range of *South Mangalore* were given the concession of removing free of charge, canes for bona-fide domestic use in basket making. In *North Malabar* the Kurumbers were given, as an inducement to live in the forests for supply of labour, 88 acres of land to raise a crop and simultaneously to plant up with teak seedlings. In *The Nilgiris* the Kurumbers in Mudumalai and Benne continued to work on fire protection and as elephant attendants. It is very difficult to secure their labour for felling and other works as employment on tea estates afford greater attractions. The Kasuba settlement at Anaikatti was continued and the people are now said to be assisting the department to a greater extent than used to be the case. The Irula and Kurumba settlements on the eastern and southern slopes were, as usual, not of any help to the department. The Sholagars in *Kollegal* and *North Coimbatore* continued to supply labour to the department. Five plots of 25 acres each, and one of 16·03 acres, more were granted on lease in the latter division towards the close of the year. The hill tribes in *Central Coimbatore* were granted leases of lands (946 acres) free or on nominal rent in three ranges on condition that they supply labour to the department. In *South Coimbatore* it is reported that the co-operation of the hill tribes in the matter of providing labour was maintained and that the existing free leases to hillmen were continued.

306. *Cultivation in reserved forests.*—Tenant-at-will leases covering 5·90 acres on an annual rental of Rs. 6–2–11 in *Mangalore, North*, 15·19 acres on a rental of Rs. 13–4–0 in *South Mangalore* were continued. In *North Malabar* 286 acres of dry, and 4 acres of wet, lands were granted for cultivation to the Kuruchiers; and 465 acres of wet in Begur and Chedleth ranges were leased out on annual leases. In *South Malabar* the lease of four acres in the old Amarampalam reserved forest for paddy cultivation was renewed for another year on an annual rental of Rs. 10; the lease of paddy fields covering 120 acres in the new Amarampalam reserve, renewed for five years from 1st April 1916 on an annual rent of Rs. 402, was in force during the year. In *The Nilgiris* the land given to the Kurumbers in the Benne tuckle area was not cultivated, the reason assigned by them being want of rain. They however continue to attend to the 13 acres placed under teak. The Wood Estate of 267 acres included in the Naduvattam reserved forest was handed over to the Cinchona Department. The lease for coffee cultivation in *Kollegal* and the grant of 169 acres in Gutialattur and North Bargur reserves in *North Coimbatore* for cultivation on payment of rent continued. In *Central Coimbatore* the lease of 84·84 acres in Chennimalai reserve, granted free of rent for thirty years in 1905 on behalf of a Panchama settlement, was in force. Fresh leases were not granted in *South Coimbatore* pending disposal of the question of forming cinchona plantations on the Anamalais.

Live and Dead Stock.

307. (*a*) *Elephants.*—The capturing operations were carried out in *South Mangalore*, *North* and *South Malabar*, *the Nilgiris* and *South Coimbatore* and were extended to *Central Coimbatore* where there were two captures during the year under report. Twenty-two elephants were on the whole captured and there were five births also. The operation in *South Coimbatore* was extremely successful as 14 elephants were captured in that division alone. Eighteen were sold for Rs. 53,150 six died and one was killed by a wild tusker. The number of deaths included one young undeveloped calf, three new captures, one very old animal and one died of choking due to some obstruction in the aesophagus. The condition of the elephants is reported to be generally good and the number remaining at the end of the year was 106.

(*b*) *Other live-stock—Bullocks.*—Twenty-four were purchased during the year. The casualities of the year were 14 sold and one destroyed, being unfit for forest work, two died and two killed by a tiger. The balance stock at the end of the year was 50. *Buffaloes*—The stock remaining now is 54, nine having died and six having been sold being unfit for forest work.

(*c*) *Veterinary establishment.*—Mr. F. X. Mascarenhas inspected the live-stock in different districts. The inspections are not as frequent as might be desirable in *The Nilgiris* with so many elephants. The work of the Assistant Inspector attached to the *South Coimbatore* division is reported to have been satisfactory.

(*d*) *Inventory of valuable stock.*—Stock registers were maintained and verified at inspections. The value of the live-stock and stores at the close of the year was Rs. 3,27,897 and Rs. 3,88,559, respectively.

308. *Rain-gauges.*—Maintained and readings recorded; and these records in *South Mangalore* continued to be unreliable.

309. *Suits.*—In *South Mangalore* a suit filed by a minor produce farm contractor for the recovery of the alleged loss caused to him by investment of the security deposits in Government promissory notes, instead of in the Postal Savings Bank, is pending in the District Munsif's Court, Puthur. In *North Malabar* a civil suit is pending disposal by the Mysore District Judge against a Mysore timber contractor, for the recovery of the loss sustained by the department on account of his failure to pay for the timber purchased by him in auction. The letters-patent appeal filed by the Tirumalpad of Nilambur, the lessor of Mudumalai forests, against the decree of the High Court in the second appeal, was dismissed with costs.

H. A. LATHAM,
Conservator of Forests, *Northern Circle.*

H. B. BRYANT,
Conservator of Forests, *Central Circle.*

P. M. LUSHINGTON,
Conservator of Forests, *Southern Circle.*

C. D. McCARTHY,
Conservator of Forests, *Western Circle.*

ADMINISTRATION REPORT OF THE MADRAS FOREST COLLEGE, COIMBATORE, FOR THE YEAR 1917-18.

Chapter I.—Constitution.

(1) *Staff.*

Mr. F. L. C. Cowley-Brown held the post of Principal throughout the year.

The posts of First Imperial Instructor was held by Mr. C. B. Dawson, that of the Second Imperial Instructor by Mr. H. C. Bennett till 28th May 1918. Messrs. E. M. Crothers and W. C. Hart, respectively, were the First and Second Provincial Instructors for the whole of the year.

Mr. K. Natesa Ayyar, Sub-Assistant Surgeon, was attached to the College throughout the year. Mr. M. S. Venkatramana Ayyar, Second Sub-Assistant Surgeon, joined duty on 30th September 1917. He accompanied the College on tour until 4th February 1918, from which date he was detailed for duty in the municipal hospital. He was eventually taken off the Forest College list from 8th April 1918, as owing to ill-health he was unable to tour. These officers gave instructions in first aid and camp hygiene to both the divisions.

(2) *Board of Visitors.*

The Hon'ble Mr. M. E. Couchman was President, and Messrs. P. M. Lushington, C. D. McCarthy, H. B. Bryant, and H. A. Latham were members of the Board of Visitors during the year under review, except for the period from 3rd April 1918 to 18th June 1918, when Mr. H. F. A. Wood joined the Board owing to the absence of Mr. H. B. Bryant on privilege leave.

Chapter II.—Result of Examinations.

The Board of Visitors met on 21st June 1918, and remained till 1st July 1918, on which date the certificates of the 1916-18 division were awarded. Twenty-seven students sat for the final examination. The following is the list of prize-winners and of the successful candidates in the order of merit showing the certificates awarded.

The Government and other prizes :—

	Name of student.
Best second-year student (gold medal) ...	C. Srinivasa Rao.
Best second-year student in Forestry	C. Srinivasa Rao.
Best second-year student in Survey	J. S. Rowland.
Best second-year student in Range Administration.	S. G. Venkatramanan.
Principal's prize for Botany	C. Srinivasa Rao.
Campbell-Walker prize for the best all-round Ranger.	C. Srinivasa Rao.
Lodge prize for the best student in Engineering.	J. S. Rowland.
Brazier prize for the best out-door Ranger ...	A. B. Fenn.
Indian Forester prize for past students ...	L. J. Taylor (1912-14).
Fischer prize for Gymnastics	A. B. Fenn.
Silver medal for honours	C. Srinivasa Rao and J. S. Rowland.

List in order of merit certificates awarded :—

Name of student.	Name of circle or State to which attached.
Honours.	
1. C. Srinivasa Rao	Western Circle.
2. J. S. Rowland	Do.
M.R.H.	
3. A. B. Fenn	Western Circle.
4. S. G. Venkatramanan	Southern Circle.
5. B. S. Sankara Ayyar	Northern Circle.
6. J. A. Stephen	Travancore State.
7. B. B. Syid Yahia	Southern Circle.
8. B. T. Sitaraman	Do.
9. A. Bhaviah	Central Circle.

10. A. Mudukrishnan	Cental Circle.
11. J. Venugopal Nayudu	Mysore State.
12. C. Vasu	Western Circle.
13. U. Timmayya	Coorg.
14. G. M. Bartholomeusz	Ceylon.
15 T. Kondathu Goundan	Western Circle.
16. P. K. Parameswaram Pillai	Travancore State.
17. Abdul Azeez	Hyderabad "
18. I. Sambasiva Rao Nayudu.	Northern Circle.
19. K. Parthaearthy Ayyangar	Southern "
20. S. Sankara Alwa	Private.
21. T. S. Ratnavelu Mudaliyar	Northern Circle.
22. C. R. Rajagopalan	Central "
M.R.L.	
23. A. Vyasalu	Central Circle.
24. V. Arasaratnam	Ceylon.
25. M. Narasinga Rao Nayudu	Northern Circle.
26. Abdul Guffur	Hyderabad State.
27. A. K. Anantarama Ayyar	Southern Circle.

Mr. Kesavaswami Ayyar, L.M.S., Assistant to the District Medical and Sanitary Officer, delivered a refresher course of lectures in first aid to the students of the 1916–18 division. Lieut. Col. C. F. Fearnside, the District Medical and Sanitary Officer and his Assistant conducted the final examination both written and oral in that subject. Nineteen students succeeded in obtaining the St. John's Ambulance certificates.

The 1917–19 division comprised 33 men at the beginning of the college year. By the close of the first term 5 men were withdrawn by reason of incapacity to follow the college course, leaving only 28 to start on their second year course.

The final examination in Physical Science for the year 1917–19 was held in June 1918.

T. D. Ponniah of the 1917–19 division won the Board of Visitors' gold medal for the best first-year student.

Messrs. C. E. C. Fischer, R. D. Richmond, R. Bourne, F. J. Marshall, M. Panchapakesa Ayyar, Raman Menon and Abdul Qadir were the examiners for the final examination. The orals were as usual supervised by the Board of Visitors.

The senior division (1916–18) was rather above the average: student Srinivasa Rao showed himself to be intellectually far beyond his fellows.

The juniors (1917–19) promise well with the exception of five men who were sent down under Rule 24 of the College Rules.

The Examiners' reports for the most part show that the instruction has been thorough, but that at the 'tail' a lack of either intelligence or general education betrayed itself. More than one examiner commented on the illegibility of the students' hand-writing : special measures are now being taken to combat this fault. It was further observed that greater attention is evidently being paid to the practical side of the training. The demonstration forest on the estate will afford largely increased facilities to both divisions for out-door work in all branches of forestry and surveying : it has been proposed by Mr. Dawson to introduce the cultivation of lac. The engineering park for bridging, fuel slide, etc., laid out by Mr. Crothers, the first Engineering Instructor, has already proved of marked benefit to the senior division. It is about to be largely extended and fitted with an angled sledge road turn-table and sledge, derrick and shears, water-shoot, tramway, etc. At least 5 to 6 hours per week is now during headquarter terms devoted by each division to field work: either forestry, or engineering, etc., i.e., for the senior division besides the Demonstration Forest operations, bridge building, estimating, check-measuriug, etc. and for the junior division, brick making, surveying, demarcation, line-cutting and road construction.

Students plates are now bound at the end of the course and returned to them: but drawings of very exceptional merit are retained and hung in the drawing hall

On tour free-hand drawing is encouraged.

The lack of text books in sylviculture, engineering and range administration continues to be serious impediments to the curriculam.

For the first time gymnastics formed part of the regular curriculum,—instruction being given to the senior division by one of the Havildars throughout the head-quarter terms.

The Examiner Sergeant Jones of the Central Police School reported that the division as a whole was well trained and that the winner of the Fischer cup as well as his nearest competitors displayed a high degree of proficiency. The Fischer cup for Gynmastics was presented this year as a permanent challenge trophy by C. E. C. Fischer, Esq., Deputy Conservator of Forests. The junior division was instructed in drill only. It is intended in future if possible to train both divisions in gymnastics. The senior division gave a satisfactory gymnastics display before the Board of Visitors.

Chapter III.—Touring, Health, Conduct and Administration.

Touring commenced at the beginning of October instead of September—the students returning with light kit early in November for a week to undergo the periodical examination. The change was found to be in many ways most advantageous.

Programme of touring of Senior division.

October.—Komuttiyeri (Javadi hills)—Sandalwood. In Tirupattur sandal depot the method of classifying and storing sandalwood was seen: the Darbar held by the District Forest Officer to distribute awards to the Malayalis was attended: levels for a pipe line to the forest bungalow at Komuttiyeri were taken and longitudinal sections prepared: Botanical specimens collected: Deputy Ranger's accounts examined and notes sent to the District Forest Officer.

November-December.—Anaipadi. Mount Stuart—Weeding and cleaning in the College block: witnessed elephant captures: teak forests examined in detail: estimate and plans designed for the improvement for the siding tramway: 3 span trestle bridge constructed: identification of trees by means of blazers practised: lecture on elephants by the Veterinary Assistant: Botany excursions.

January.—Walliar—Enumeration surveys: thinning: tree analysis: stone and brick arches on the railway line studied: A trestle foot bridge and a bamboo fuel slide were constructed: Range records were examined: Botany excursions.

February.—Sadivayal—Fire tracing: writing up of the working plan report: two trestle bridges were constructed one 32′ 6″ and the other 62′ in length: well boring demonstration. Botany excursions.

April-May.—Coonoor-Bandyshola—Thinning of blue gum: *Loranthus Nilghiriansis* on blue gum studied: pitting for transplanting blue gum seedlings: final survey examination: inspection of the new college road with the District Forest Officer: the Wellington fuel depot inspected: the Sims Park visited for botanical observations.

(Forest cases were attended at the Magistrates' Courts in headquarter terms on three occasions.)

Junior division.

October.—Mount Stuart—Sylviculture and regeneration of teak: study of improvement fellings: thinnings and weeding: enumeration survey of sample plots: eradication of bamboo: coppice with standard system: demarcation of coupes: inspection of the Pollachi depot (and forest utilization examination) tram-line trace: construction of tramway bridge: study of differential pulley and hydraulic ram. Botany excursions.

November-December.—Nilambur and Nedungayam—Teak plantations examined in detail: study of soils: enumeration surveys: calculation of volume of standing crops: regeneration of teak: inspection of rubber plantation and rubber factory: study of rafting road alignment: blasting and quarrying: inspection of range office records: check of timber checking stations: Botanical excursions: visited at Calicut Kallai saw mills, cannery, tile works and Dutts oil mills.

January.—Mundanthorai–Tinnevelly.—Thinning of teak coppice: marking for girdling: improvement fellings: enumeration surveys: regeneration of *Hopea parviflora*: plane table and chain survey of the camp site: taking of levels for road construction: botany excursions.

February.—Sadivayal—Inspection of coppice with standard: construction of charcoal-kiln: clearing and burning of fire lines: weeding of nursery; improvement fellings: survey and plotting of coupes. Trestle bridge construction with seniors: tube well boring: Botany excursions.

April and May.—Aramby—Study of Eucalyptus plantations: measurement of trees in sample plots: marking for thinnings: calculation of volume: visit to the Eucalyptus oil still in the Government gardens: Botanical specimens studied: stem analysis of trees: examination of range office records and forest depot: instruction in survey and contour marking, demarcation of the Aramby reserve and alignment of road in the Maddanna plantation, in combination with the forest guard training school with the object of giving the Forest College students practice in control.

Probably more time than is necessary is spent at Mount Stuart. On the Nilgiris another week would be distinctly advantageous to the course.

As usual all operations on tour have been recorded in the College Journals—extracts or special notes being communicated to the District Forest Officers concerned.

Owing to the elephant sales being no longer held at Walliar it was not possible this year for the College to attend them.

Forty-two students passed in swimming.

The thanks of the College are due to Messrs. Wood, Richmond, Barry, Bourne, and Venkatramana Ayyar for the trouble taken to render the touring comfortable and advantageous. The College tours necessarily cause considerable inconvenience to District Forest Officers, and although every effort is made to make some return by carrying out operations that will be of use to the district, the balance of indebtedness must always be against the College but for the eventual benefit to the department by the production of efficient Rangers.

The conduct of the students as a whole left nothing to complain of with the exception of a certain lack of responsiveness. The average age on 30th June 1918 was senior division 28, junior division 26. In the senior division were 8 men over 30 and in the junior division 3. Men over 25 are naturally less capable than their juniors of assimilating to the full the benefit of the College training.

Of the 1917–19 division 7 came with good, 14 with fair, 2 with moderate and 5 with less than moderate characters.

The few serious cases of illness or injury that occurred were dealt with by the Municipal Hospital. In two instances students sent there by reason of a football accident or for other causes subsequently developed typhoid. The health otherwise of the College was good throughout the year.

At the meeting of the Board of Visitors held on June 29th and 30th resolutions (amongst others) were passed to the effect that—

(i) the municipal well should be acquired and joined to the engine-house well by an adit;

(ii) a windmill and pump should be obtained to work the Arboretum well.

(iii) a storage tank should be constructed to collect rain water from the College roof;

(iv) the Mali's pay should be considerably increased;

(v) marks for Botany should be raised;

(vi) an Engineering Manual should be prepared by one of the College staff;

(vii) the annual allotment for roads, buildings and avenues should be raised to Rs. 5,000;

(viii) the Library annual allotment should be raised to Rs. 150.

(ix) past students should be encouraged by special arrangements to attend to prize Day a social function being also combined with the distribution of prizes;

(x) the Demonstration Forest Project was approved.

(xi) Hundred marks, from which mark fines would be deducted, should be allotted to conduct and efficiency.

Owing to the present financial stress the urgent necessity for increasing the pay of the Head Clerk and Overseer and for providing quarters on the estate for the Overseer was not formally laid before the Board of visitors.

Chapter IV.—The Gass Forest Museum:—College and students' Libraries.

During the year the Principal was deputed to Dehra Dun to study the Museums of the Research Institute. Material alterations in the arrangements of sections and exhibits, have in consequence been introduced into the Gass Museum—each section being denoted by a prominent label. Models of the various sylvicultural systems will shortly be constructed at the College carpenter's shop; these combined with the diagrams received from Dehra and in connexion with the Demonstration forest should be of great value in appealing to the student's eye rather than to his memory. A large nnmber of timber panels collected by Mr. A. W. Lushington, C.I.E., have been added. All forest produce has been arranged as far as possible in botanical order to facilitate search for a particular exhibit. The characteristic bark when procurable is now affixed to each timber panel. Over 70 sample pencils of different species tried with varying success have been received from the Department of Industries. Mr. C. E. C. Fischer has again made a generous contribution (of 147 specimens) to the herbarium. By the removal of curios, toys, etc., having little bearing on forestry proper the museum has been made less of a 'Wonder house', and space has thereby been obtained for exhibits of greater instructional value. A considerable number of inferior trophies have been shroffed.

Creepers have been trained on to the walls of the museum. The windows have been provided with blinds by the Public Works Department at a cost of Rs. 823.

About 12,800 people (excluding Madras Forest College students) as against 10,600 last year and 5,000 the previous year have visited the museum.

One of the eleven sections of the Museum catalogue was printed, copies being supplied to many of the Forest officers in the Presidency.

The Curator was relieved in February of all supervision of planting operations on the estate and is now able to concentrate on museum work proper.

General Library.

One hundred and fifty-four books were added, of which 46, were presented by C. E. C. Fischer, Esq.

Students' Library.

The stock was increased by 55 volumes, 23 being presented by C. B. Dawson, Esq., and 18 by Mr. S. Doraiswami Ayyar. A large number of magazines, etc., were sent periodically to the Military hospitals at Secunderabad.

The catalogues of the general and students' libraries were printed.

Chapter V.—Water-supply, Planting, Roads buildings, etc.

For the improvement of the water-supply the engine well was deepened by 5′ by the Public Works Department. This has resulted in an increase of about 600 gallons per day. The minimum yield is now about 4,200 gallons per day in non-rainy months when water is most needed. This supply just suffices for domestic requirements when the college is at headquarters, but does not permit of the Dhobie Khana being used, or of the avenue trees, nursery and arboretum being watered. Consequently the Dhobie Khana cannot be utilized, and water for the trees, etc., in non-rainy months when the college is in residence has to be drawn from another well and transported by coolies at very considerable expense; for the latter purpose alone about 2,000 gallons per day are required. No progress has been made with regard to the proposal to put a windmill over this well (the college is rarely free throughout the year from a strong wind) or with the project for storing the rain water from the college roof.

Adjoining the engine-well at a distance of about 30 yards is a two-mote well, the yield of which is probably about 40,000 gallons per day. The Executive Engineer proposes to acquire this well, connect it with the engine-well by an adit and to work both wells with the present engine. There seems little doubt that this scheme (of which the Sanitary Commissioner approves) would provide an ample supply for all purposes except drinking. All competent authorities appear to be agreed that drinking water cannot be obtained on the college estate. It is still obtained by cart

from a more distant and reputedly purer well than its neighbours. The Sanitary Engineer has made an alternative proposal to move the engine-house to the edge of a public tank $\frac{3}{4}$ mile further off. Since the close of the year a water-finder has been employed: he has indicated nine spots below which water may be expected: one has been bored to a depth of 70′ and water has risen to within 40′ of the surface: a well, if sunk here, would be of undoubted value as a supplementary supply, but for the main source the connexion of the adjoining to the engine-well would probably be by far the more economical and satisfactory scheme.

In the meantime the college continues to suffer what can only be characterized as a grievous disability from lack of water. The estate is being developed but at a very enhanced cost and progress is necessarily very slow. If an adequate supply of water were assured—and it is only a question of funds and energy—a system of pipes and taps to all parts of the estate would be laid out, progress would be both cheaper and quicker, the avenues and private gardens would flourish, the college and museum and all buildings would become covered with the bright blossoms of creepers, the nursery and arboretum would be of real instructional benefit to the students, and the 25 acres surrounding the main building would be transformed into something approaching an ornamental park: it is now a dreary babul waste, in the hot weather fissured with wide and deep cracks and covered with long spear grass and in the rains a morass.

Creepers and ornamental shrubs are being planted round the walls of the main building (as well as of the museum) but their maintenance under present conditions is expensive and precarious. During the year about 1,200 trees have been planted in the avenues and arboretum and a large number of seedlings have been raised in the nursery. More than two miles of paths have been laid out to a considerable extent by the students. An estate and sanitary overseer on Rs. 25 was appointed from February 23rd. He certainly does his best, but for the pay offered a really competent man cannot be expected. It would be an economy to offer a salary sufficient to induce a retired trained ranger to take up the post.

Owing to the insufficiency of the annual grant for maintenance of roads and buildings (Rs. 2,500 for the repair and maintenance of the $5\frac{1}{2}$ miles of roads and paths and the Rs. 374,275 worth of buildings in charge of the Principal), it has not been possible to do more than carry out urgently necessary repairs to the hostels and to a small length of the roads. The exterior iron and wooden work of the college and museum have not been repainted since the college was completed and is consequently deteriorating rapidly. The inadequacy of the annual grant has been specially brought to the notice of the Board of Visitors.

CHAPTER VI.—GENERAL.

The stock of the college was checked in July 1917 and the defects noticed were remedied. The office was inspected twice during the year: once in July 1917 by the second Imperial Instructor and secondly in January 1918 by the Principal.

The service registers have been posted up to date and the services of the 1916–18 students were verified up to 2nd July 1918.

The work of the office has been quite satisfactory, and reflects great credit on Mr. Doraiswami Ayyar, Head Clerk. The Storekeeper Mr. A. Marudachallam Pillai has usually carried out his varied duties with efficiency.

The work and conduct of the subordinate establishment (especially malis and sweepers) have improved somewhat during the year, owing to the efforts of the overseer, the unfailing tact and careful control exercised by the house tutor Mr. Crothers, as also to the low standard of outturn hitherto demanded and to the expectation of an early increase in pay. Unless this latter expectation is realized it will be impossible to keep them for any length of time on their present wages which are now considerably less than the rates prevalent in Coimbatore or offered by recruiting officers: as it is resignations are frequent and sudden. On the other hand efficiency rises with every additional month of service, and progress cannot be expected if it is found impossible to retain this class of servant in regular continuous employment. The success of the project for developing and improving the estate naturally depends to a large extent on an improvement in the pay of these people.

Students' gardens are being started at the hostels.

From March 1st the supply of dairy produce was undertaken by the Agricultural College and farm and cattle were finally prohibited on the estate. The result has been of marked benefit to the comfort and health of the students and to the welfare of the plants.

Towards the end of the year a provision and fuel store was opened on the estate: this has proved a boon and an economy to the residents and at the same time a financial success to the promoters.

A temporary reading room at some inconvenience has been arranged for: a permanent recreation room near the hostels (in which the students can amuse themselves at their ease) is badly required; the students have subscribed a certain amount already towards this object.

Athletics.—During the year the athletic ground was laid down, a portion of the work being carried out by the students. Three tennis courts were constructed by the Public Works Department. Two badminton courts have been prepared at the hostels. The advantage of having grounds for football, hockey, tennis, cricket, athletics, etc., on the estate, in lieu of having to journey out to the Coronation Park to claim a debatable pitch, needs no emphasis. Under Mr. Bennett's supervision the athletics were managed with efficiency and zeal.

The season at football and hockey was less successful than at cricket: one student scored two centuries in consecutive matches at intervals of a week. The athletic sports were held in the Police Recruits' School grounds: Mr. Richmond's cup for the highest aggregate being won by junior student C. B. Chengappa, who at the end of the year also gained the Pentland Shield for the championship of the college in all branches of athletics.

The Marathon race ($7\frac{1}{2}$ miles hill and plain) was run over the usual Sadivayal course: practically the whole college competed, senior student P. K. Perameswaram Pillai being the winner, while for the inter-division cup the juniors defeated the seniors.

The efficiency of the work of the staff is clearly indicated by the fact that there were no failures amongst the students who completed the course. The willing co-operation of Messrs. Dawson and Crothers merits special mention.

MADRAS FOREST COLLEGE, COIMBATORE,
24*th September* 1918.

F. COWLEY-BROWN,
Principal.

Administration Report 1917–18.—Summary of revenue and expenditure for the forest year 1917–18.

Head of service.	Amount. RS.	A.	P.
Revenue.			
V (*b*)	21,032	13	7
Expenditure.			
Refunds and drawbacks	48	5	0
A.—Conservancy and Works.			
A (vi) (*c*)	4,504	0	1
A (vii) (*a*)	1,804	5	7
A (vii) (*b*)	809	6	10
A (vii) (*c*)	2,500	0	0
A (viii) (*e*)	1,587	14	0
A (viii) (*g*)	577	12	8
A (ix) (*c*)	1,214	0	9
Grain compensation allowance	27	0	0
Total ...	13,024	7	11

B.—Establishment.

	RS.	A.	P.
B (i) (*b*)	51,598	14	9
B (i) (*c*)	24,642	11	4
B (i) (*d*)	4,901	14	10
Grain compensation allowance	294	9	6
B (ii)	7,150	10	2
B (iii) (*b*) (1)	75	5	4
B (iii) (*b*) (2)	9,344	1	10
Total ...	98,008	3	9
Total A and B ...	1,11,032	11	8

Abstract showing the live-stock, stores, tools, etc., for the year ending 30th June 1918.

District.	Description of stock.	On hand at the commencement of the year. Number.	On hand at the commencement of the year. Amount.	On hand at the end of the year. Number.	On hand at the end of the year. Amount.	Difference in value in favour of the year.	Difference in value against the year.
			RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
Madras Forest College, Coimbatore.	Surveying and other instruments.	1,645	7,010 2 4	1,651	6,828 13 2	..	181 5 2
	Tools	470	399 6 5	488	472 4 7	72 14 2	..
	Furniture	1,474	25,973 6 7	1,506	25,771 3 0	..	202 3 7
	Tents	136	1,734 0 0	148	2,475 1 9	741 1 9	..
	Uniforms and accoutrements.	107	188 1 9	97	297 15 11	109 14 2	..
	Scientific apparatus.	1,602	1,014 1 1	1,591	954 11 9	..	59 5 4
	Photographic apparatus.	9	530 14 9	9	504 6 0	..	26 8 9
	Gymnasium apparatus.	9	439 14 4	9	417 14 4	..	22 0 0
	Machinery (oil engine, etc).	2	2,850 0 0	2	2,707 0 0	..	143 0 0
	Miscellaneous ..	1,860	4,176 7 7	2,266	4,296 15 0	120 15 0	..
	Total ..	7,314	44,316 6 10	7,767	44,726 5 6	1,044 5 6	634 6 10

TABLE OF CONTENTS.

	PAGE
Appendix A.—Abstract of fires	i & ii
Do. B.—Comparative statement of impounded cattle	iii
Area of reserved forests and reserved lands (No. 65)	iv & v
Progress made in, and the expenditure incurred on, forest settlements (No. 66)	vi & vii
Record of demarcation and maintenance of boundaries (No. 67)	viii & ix
Progress made in working-plans (No. 69)	x & xi
Communications and buildings (No. 70)	xii
Register of breaches of Forest Rules (No. 71)	xiii to xvi
Area of forest tracts protected from fire (No. 72)	xvii to xix
Area closed and open to grazing (No. 73)	xx & xxi
Return of grazing in the State forests (No. 74)	xxii to xxv
Artificial reproduction (No. 75)	xxvi & xxvii
Statement showing the outturn of timber and fuel and agency of exploitation (No. 76)	xxviii to xxxiii
Outturn of minor forest produce (No. 77)	xxxiv to xxxvi
Account of timber, etc., in depots and sold locally (No. 78)	xxxvii to xl
Statement showing the value of timber and other produce at sale depots (No. 79)	xli & xlii
Summary of revenue and expenditure (No. 80)	xliii to xlix
Summary of the above prepared in the Board's office	l & li
Outstanding and liabilities on account of contractors and disbursers (No. 81)	lii
Revenue received and outstanding on account of revenue (No. 82) ...	liii
Statement of financial results (No. 83)	liv
Statement of elephants, etc. (No. 84)	lv & lvi
Abstract of value of stores, tools and plants (No. 85)	lvii

APPENDICES.

Appendix A.—Comparative statement of number and origin of fires that occurred during 1917–18.

District.	A. Fires caused by accident or through carelessness in burning fire lines.		B. Fires entering the forests by crossing exterior fire lines.		C. Fires beginning inside the reserves or fire-traced areas. Owing to carelessness or accident. By workmen employed in the forests, by purchasers of forest produce and by hay cutters.		By villagers, travellers, etc., passing through the forests.		By railway engines.		By lightning or by fire balloons.		By intentional firing. In order to obtain new grass.		In order to turn out game or to reduce cover.		Maliciously fired.		Total.		Causes unknown.		Total of A, B and C and causes unknown.	
	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Northern Circle.																								
Ganjām	..	..	4	344	1	30	9	846	..	..	..	..	4	122	7	646	6	108	27	1,752	6	391	37	† 2,487
Vizagapatam ..	..	..	8	2,985	9	5,470	6	54	..	..	..	..	..	..	..	..	..	..	15	5,524	..	..	23	8,509
Gōdāvari, Upper.	..	..	9	5,291	..	..	3	3,600	..	..	..	..	2	2,816	5	19,591	1	* ..	11	26,007	11	11,482	31	42,780
Do. Lower.	..	..	..	..	3	160	18	530	..	..	..	..	..	..	..	..	..	..	21	690	20	696	41	1,386
Kistna	..	..	..	..	..	..	3	380	..	..	..	..	..	..	..	..	..	..	3	380	..	..	3	380
Kurnool, East ..	..	..	10	25,140	..	..	1	250	..	..	..	..	..	..	..	..	1	30	2	280	32	10,847	44	36,267
Do. South ..	1	24	8	12,363	3	1,348	6	2,616	3	161	1	10	15	8,268	..	..	8	28,423	36	40,826	17	50,250	62	103,463
Do. West ..	1	420	10	10,950	..	..	19	18,579	2	62	..	..	11	3,052	31	86,453	4	1,107	67	109,253	23	29,324	101	149,947
Total ..	2	444	49	57,073	16	7,008	65	26,855	5	223	1	10	32	14,258	43	106,690	20	29,668	182	184,712	109	102,990	342	345,219
Central Circle.																								
Bellary	2	50	53	37,401	2	470	20	3,797	4	213	1	18	15	2,688	..	..	..	..	42	7,186	71	46,328	168	90,965
Anantapur ..	..	..	5	1,576	1	420	23	7,371	3	1,570	..	..	19	4,182	1	15	4	3,813	51	17,371	39	11,892	95	30,839
Guntūr	..	..	..	..	..	..	21	3,307	..	..	..	..	..	..	..	..	..	..	21	3,307	..	..	21	3,307
Cuddapah, North.	6	788	27	19,151	2	62	8	3,139	..	..	..	..	37	39,821	3	1,066	2	3,093	52	47,181	33	10,213	118	77,333
Do. South	2	980	12	1,791	..	..	9	9,835	..	..	..	..	65	39,522	1	2	..	..	75	49,359	5	420	94	52,550
Do. West	2	222	4	13,790	..	..	5	2,980	..	..	..	..	35	56,345	..	..	1	80	41	59,405	14	4,859	61	78,276
Nellore	3	371	4	128	..	..	6	235	..	..	..	..	10	3,014	..	..	3	1,325	19	4,574	3	255	29	5,328
Chingleput ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	13	2	13
Chittoor	4	47	16	5,114	3	37	8	495	2	49	1	2	76	7,027	..	..	24	3,185	114	10,795	..	..	134	15,956
Total ..	19	2,458	121	78,951	8	989	100	31,159	9	1,832	2	20	257	152,599	5	1,083	34	11,496	415	199,178	167	73,980	722	354,567

* Less than an acre.

† Includes areas burnt in unprotected forest tracts.

Appendix A.—Comparative statement of number and origin of fires that occurred during 1917–18—*cont.*

District.	A. Fires caused by accident or through carelessness in burning fire lines.		B. Fires entering the forests by crossing exterior fire lines.		C. Fires beginning inside the reserves or fire-traced areas. Owing to carelessness or accident. By workmen employed in the forests by purchasers of forest produce and by hay cutters.		By villagers, travellers, etc., passing through the forests.		By railway engines.		By lightning or by fire balloons		By intentional firing. In order to obtain new grass.		In order to turn out game or to reduce cover.		Maliciously fired.		Total.		Causes unknown.		Total of A, B and C and causes unknown.	
	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.	Number of fires.	Area burnt in acres.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Southern Circle.																								
North Vellore ..	..	..	4	1,245	..	..	13	1,331	4	114	..	.	12	1,296	2	26	..	..	31	2,767	64	8,089	99	12,101
South do. ..	1	5	1	5	1	20	6	608	..	..	..	..	36	2,763	..	..	33	7,462	76	10,853	5	1,028	83	11,891
West do. ..	..	..	6	584	..	..	12	389	..	..	..	..	7	405	2	78	4	420	25	1,292	16	4,051	47	5,927
South Arcot ..	..	..	1	1	..	..	6	66	..	..	..	..	..	..	..	..	..	..	6	66	2	2	9	69
North Salem ..	4	20	6	1,960	1	90	10	622	1	20	..	..	..	..	..	..	..	..	12	732	34	6,287	56	8,999
South do. ..	1	8	6	1,729	..	..	22	3,091	..	..	.	..	10	708	..	..	..	..	32	3,799	66	4,360	105	9,896
Trichinopoly ..	1	117	24	..	..	..	1	30	..	..	..	..	..	..	..	..	..	..	1	30	30	1,276	32	1,423
Madura	..	..	..	2,733	..	..	20	1,198	..	..	..	..	19	1,136	..	..	45	5,130	84	7,464	29	2,957	137	13,154
Tinnevelly ..	2	163	5	337	3	58	1	25	..	..	8	1,747	2	830	5	1,518	2	125	21	4,303	3	17	31	4,820
Total ..	9	313	53	8,594	5	168	91	7,360	5	134	8	1,747	86	7,138	9	1,622	84	13,137	288	31,306	249	28,067	599	68,280
Western Circle.																								
Mangalore, North.	8	13	23	524	..	..	26	414	..	..	2	3	2	11	..	..	4	319	34	747	8	673	73	1,957
Do. South.	3	13	25	2,192	2	38	57	1,333	..	..	..	..	3	113	8	60	5	672	75	2,216	27	736	130	5,157
Malabar, North ..	2	9	4	4,202	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	2	55	8	4,266
Do. South.	1	100	2	105	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	205
The Nilgiris * ..	2	1,505	1	5	..	..	13	2,736	..	..	..	..	11	2,673	1	100	4	5,860	29	11,369	1	80	33	12,959
Kollegal ..	3	2,548	..	..	1	330	9	8,306	..	..	..	..	39	69,370	..	..	..	..	49	78,006	11	16,168	63	96,722
Coimbatore, North.	2	82	..	..	..	..	..	..	..	..	..	..	46	52,659	..	..	2	88	48	52,747	160	89,296	210	142,125
Do. Central.	4	188	4	582	2	179	1	18	..	..	..	..	10	512	3	164	2	101	18	974	8	571	34	2,315
Do. South.	2	680	..	..	..	..	4	340	..	..	..	..	..	..	..	..	..	..	4	340	3	63	9	1,083
Total ..	27	5,138	59	7,610	5	547	110	13,147	..	..	2	3	111	125,338	12	324	17	7,040	257	146,899	220	107,642	563	266,789
Grand total for 1917–18.	57	8,353	282	152,228	34	8,722	366	78,521	19	2,189	13	1,780	486	299,333	69	109,719	155	61,341	1,142	561,595	745	312,679	2226	1,034,885
Grand total for 1916–17.	66	36,988	264	158,361	34	1,704	352	58,364	16	2,057	14	1,252	375	131,760	60	24,607	217	132,178	1,068	351,862	730	315,179	2,128	862,390

* Includes areas burnt in unprotected blocks.

APPENDIX B.—Comparative statement of impounded cattle for 1917–18.

District.	Number of cattle impounded.		Average for three years ending 1917–18.
	1916–17.	1917–18.	
Northern Circle.			
Ganjām	2,449	1,974	1,819
Vizagapatam	1,021	816	1,330
Gōdāvari, Upper	610	276	407
Do. Lower	765	766	905
Kistna	4,541	4,141	4,346
Kurnool, East	9,352	3,797	6,811
Do. South	1,206	2,511	2,331
Do. West	5,310	2,456	5,877
Total ..	25,254	16,737	23,826
Central Circle.			
Bellary	8,366	4,971	8,587
Anantapur	10,705	12,294	12,263
Guntur	25,202	21,769	25,454
Cuddapah, North	4,644	2,831	2,980
Do. South	1,957	857	3,009
Do West	7,216	3,901	6,540
Nellore	6,534	6,928	7,744
Chingleput	4,120	3,338	4,497
Chittoor	6,672	5,458	6,431
Total ..	75,416	62,287	77,505
Southern Circle.			
North Vellore	7,185	6,732	7,355
South do.	3,672	3,451	3,663
West do.	2,694	1,217	1,698
South Arcot	7,487	5,043	7,252
North Salem	2,669	2,505	2,982
South do.	2,636	3,902	3,697
Trichinopoly	2,814	2,284	2,564
Madura	3,275	4,296	4,202
Tinnevelly	2,026	3,001	2,642
Total ..	34,458	32,431	36,055
Western Circle.			
Mangalore, North	541	499	457
Do. South	487	449	515
Malabar, North	36	62	38
Do. South	85	253	134
The Nilgiris	895	577	835
Kollegal	861	492	1,180
Coimbatore, North	3,108	3,131	3,387
Do. Central	1,168	1,158	1,031
Do. South	603	730	794
Total ..	7,784	7,351	8,371
Grand total, Presidency ..	142,912	118,806	145,757

Annual Form No. 65.

Forest Department, Madras Presidency.

Area of reserved forests and reserved lands during 1917–18.

District.	Area of reserved forests.						Area of reserved lands.						Total area of reserved forests and reserved lands in square miles.
	Area on 1st July 1917.		Added during the year.	Excluded during the year.	Area on 30th June 1918.		Area on 1st July 1917.		Added during the year.	Excluded during the year.	Area on 30th June 1918.		
	Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.	Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Northern Circle.													
Ganjām	357,473	559	41,400	..	398,873	623	41,400	65	..	(d) 41,400	..	..	623
Vizagapatam	199,371	312	..	..	199,371	312	1,327	(c) 2	..	..	1,327	(c) 2	314
Gōdāvari, Upper	277,711	434	760	..	278,471	435	220,559	344	..	(d) 760 (e) 219	219,580	343	778
Do. Lower	258,620	404	..	(a) 2,150	256,470	401	47,955	75	..	(f) 31	47,924	75	476
Kistna	170,448	266	..	(a) 313 (b) 441	169,694	265	400	1	..	..	400	(g) 1	266
Kurnool, East	640,302	1,000	..	(a) 2,126	638,176	997	..	..	..	..	..	..	997
Do. South	490,439	766	.	(a) 3,775	486,664	760	..	..	..	..	..	..	760
Do. West	554,079	866	..	(a) 483	553,596	865	..	..	..	..	..	..	865
Total ..	2,948,443	4,607	42,160	9,288	2,981,315	4,658	311,641	487	..	42,410	269,231	421	5,079
Central Circle.													
Bellary	387,052	605	..	..	387,052	605	40,000	63	2,060	..	42,060	66	671
Anantapur	479,485	749	58	..	479,543	749	48	..	10	58	..	..	749
Guntūr	520,373	815	..	(a) 3,469	516,904	808	..	..	..	..	..	..	808
Cuddapah, North	424,863	664	..	(h) 43,706	381,157	595	..	..	401	(n) 5	396	1	596
Do. South	295,591	462	..	..	295,591	462	..	..	133	..	133	..	462
Do. West	434,179	678	179 (i) 43,706 (j) 26	(a) 163 (b) 6	477,921	747	1,974	3	1,075	179	2,870	4	751
Nellore	(o) 461,101	720	146 (j) 323	(a) 1,649	459,921	718	1,165	2	948	146 (l) 727	1,240	2	720
Chingleput	132,218	207	..	..	132,218	207	..	..	11	..	11	..	207
Chittoor	531,705	831	..	..	531,705	831	42	..	4	(m) 11	35	..	831
Total ..	3,666,567	5,729	44,438	48,993	3,662,012	5,722	43,229	68	(k) 4,642	1,126	46,745	73	5,795

(a) Disafforested.
(b) Rectification on account of correct computation.
(c) Leased forests.
(d) Transferred to reserved forests.
(e) Excluded at settlement.
(f) Handed over to the Salt department.
(g) Notified under section 26 of the Forest Act.
(h) Transferred to West Cuddapah.
(i) Transferred from North Cuddapah.
(j) Due to correct computation of area.
(k) 4,642 acres shown in column 10 relate to those notified under section 4.
(l) 727 acres of Sriharikota was notified and cancelled.
(m) Due to incorrect area originally adopted in Chittoor.
(n) Transferred from North Cuddapa to West Cuddapah.
(o) The difference between the opening balance and the closing balance is reported to be due to wrong calculation in Nellore in the previous year.

Area of reserved forests and reserved lands during 1917–18—*cont.*

District.	Area of reserved forests. Area on 1st July 1917. Acres.	Equivalent in square miles.	Added during the year. Acres.	Excluded during the year. Acres.	Area on 30th June 1918. Acres.	Equivalent in square miles.	Area of reserved lands. Area on 1st July 1917. Acres.	Equivalent in square miles.	Added during the year. Acres.	Excluded during the year. Acres.	Area on 30th June 1918. Acres.	Equivalent in square miles.	Total area of reserved forests and reserved lands in square miles.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Southern Circle.													
North Vellore	303,352 (a) − 6,773	474	100	1,702	294,977	461	1,219 (e) − 2	2	(d) ..	100	1,117	2	463
South do.	261,053 (a) + 6,773	408	..	60	267,766	418	(f) 24	..	..	..	24	..	418
West do.	209,953	328	..	..	209,953	328	224	..	..	..	224	..	528
South Arcot cum Tanjore.	216,226 (c) − 1	338	..	8,057	208,168	325	..	..	..	..	..	..	325
North Salem	511,933	800	115	..	512,048	800	24,527	38	217	115	24,629	38	838
South do.	367,515 (b) − 9,915	558	..	..	357,600	558	11,430	18	3,660	..	15,090	24	582
Trichinopoly	211,641 (b) + 9,915	346	2,464	2,543	221,477	346	4,155	7	..	2,464	1,691	2	348
Madura	422,350	660	..	..	422,350	660	2	..	..	..	2	..	660
Tinnevelly	274,325 (c) + 16	429	2	3	274,340	429	103	..	(k) 949	2	1,050	2	431
Total ..	2,778,363	4,341	2,681	(g) 12,365	2,768,679	4,325	41,682	65	4,826	2,681	43,827	68	4,393
Western Circle.													
Mangalore, North	232,047	362	14	(g) 96	231,965	362	14	..	..	14	..	..	362
Do. South	278,800	436	..	..	278,800	436	..	..	..	..	..	..	436
Malabar, North	168,076	263	..	..	168,076	263	22	..	396	..	418	1	264
Do. South	92,107	144	2	(h) 4	92,105	144	12,982	20	..	2	12,980	20	164
The Nilgiris	297,444	465	..	(g) 7	297,437	465	51,097 (i) 2,851	80 4	24	..	51,121 2,851	80 4	549
Kollegal	467,693	731	10	..	467,703	731	10	..	..	10	..	..	731
Coimbatore, North ..	586,172	916	..	..	586,172	916	659	1	..	..	659	1	917
Do. Central ..	231,746	362	95	(g) 73	231,768	362	94 (j) + 1	..	..	95	..	..	362
Do. South ..	290,794	454	..	(g) 234	290,560	454	..	..	..	..	..	..	454
Total ..	2,644,879	4,133	121	414	2,644,586	4,133	67,730	105	420	121	68,029	106	4,239
Grand total, Presidency ..	12,038,252	18,810	89,400	71,060	12,056,592	18,838	464,282	725	9,888	46,338	427,832	668	19,506

(a) Area transferred from North Vellore to South Vellore.
(b) Area transferred from South Salem to Trichinopoly.
(c) On account of revised figure furnished by the District Forest Officer.
(d) Below one acre.
(e) Deducted as per actual survey.
(f) Area of Arasampet extension notified under section 4 in G.O. No. 1374, Revenue, dated 16th June 1916, and omitted to be shown in the previous year.
(g) Disafforested.
(h) Transferred to the Fisheries department.
(i) Toda patta lands.
(j) Due to adoption of correct area.
(k) Area of Mulakud block proposed to be handed over to the Tuticorin port for management after reservation.

ANNUAL FORM No. 66.

Forest Department, Madras Presidency.

Progress made in forest settlements during the year 1917–18.

Forest district.	Name of forest.	Area in square miles.			Cost during the year.		Entire cost per square mile of areas finally settled.	Government notification of settlement.	
		Finally settled during the year.	In hand at commencement of the year.	Taken in hand during the year.	In forest accounts.	In other accounts.		Number.	Date.
	Northern Circle.	SQ. MLS.	SQ. MLS.	SQ. MLS.	RS.		RS.	NO.	
Gōdāvari, Upper.	Nugur	..	246·61	..	..	..	..	..	..
	Pedamidisileru	..	96·48	..	..	..	..	..	..
Gōdāvari, Lower.	Coringa extension	..	* 74·88	..	..	..	..	..	..
	Total ..	..	417·97	..	..	..	..	..	..
	Central Circle.								
Bellary ..	....	..	..	..	..	..	..	..	..
Anantapur ..	Amagondapaliem	0·02	0·02	..	..	..	..	447/Rev.	26th Sep. 1917.
	Dadithota	0·06	0·06	..	(c) 236	..	3,933	455/Rev.	9th Oct. 1917.
	Penukonda	0·02	..	0·02	153	..	7,650	30	26th April 1918.
Guntūr ..	....	..	..	..	..	..	..	..	..
Cuddapah, North.	Ganugapenta extension B block.	..	..	0·07	..	..	..	561	29th Dec. 1917.
	Dasaripalli	..	..	0·17	..	..	..	..	..
	Kavalakuntla extension B ..	..	..	0·02	..	..	..	..	..
	Kalasapad extension	..	..	0·27	..	..	..	..	..
	Dasarapalli extension ..	..	..	0·31	..	..	..	..	..
	Lankamalais extension ..	..	..	0·9	..	..	..	..	..
	Lankamalai	..	..	0·05	..	..	..	..	..
Cuddapah, South.	....	..	..	..	(a) 52	..	..	..	..
Cuddapah, West.	Pentas in Palakondas ..	0·28	0 28	..	..	..	..	2736	4th Sep. 1917.
	Putlampalli shrotriyam reserved forest.	..	2·76	..	..	..	..	..	..
	Chinnakampalli fields ..	..	0·03	..	320 (a) 150	..	10,666	..	..
	Ganganapalli Idupulapaya addition.	..	..	1·65	..	..	..	..	..
	Fields in Machupalli within Kanamalopalli R.F.	..	..	0·0049	..	..	..	..	..
	Fields in Madbavaram village in Konarajupalli.	..	..	0·0031	..	..	..	..	..
	Fields in Chuntarajupalli in Vontimitta R F.	..	..	0·0121	..	..	..	..	..
	Fields in Gadikotta in Gadikotta R.F.	..	..	0·0044	..	..	..	..	..
	Addition to Surabhu .. .	..	0·02	..	..	..	..	..	..
	Kanamalopalli extension ..	..	..	0·05	..	..	..	..	..
	Konarajupalli Kothakota ..	..	..	0·003	..	..	..	..	..
Nellore ..	Addition to Bitragunta R.F.	(b) 0.07	·07	..	..	..	..	B.P. 356 Mis.	7th Dec. 1917.
	Addition to Prabhagiripatnam R.F.	..	·04	..	..	..	..	B.P. 147	1st Nov. 1916.
	Enclosures in Dachur ..	..	·085	..	1,300	..	..	,, 45	11th April 1917.
	Yellaseri Block B	..	·025	..	..	..	..	,, 45	Do.
	Kottapatam	..	·020	..	413	..	..	,, 45	Do.
	Turpukambampad	(b) 0·030	·030	..	..	..	..	97, Mis.	16th March 1918.
	Telugurayapuram	..	·025	..	547	..	..	45	11th April 1917.
	Rapur Veligonda B	..	·005	..	146	..	..	45	Do.
	Guvvadi, West	..	·080	..	1,225	..	..	45	Do.
	Udyagiri Durgam B	..	·010	..	184	..	..	45	Do.
	Udyagiri Yerrakondas ..	(b) 0·040	·040	..	..	..	..	99, Mis.	16th March 1918.
	Tummalapenta, West ..	..	·015	..	..	..	..		
	Tummalapenta, North ..	..	·005	..	..	..	..		
	Chinna Avalur extension ..	..	·015	..	..	..	..	45	11th April 1917.
	Veligonda	..	·015	..	..	..	..		
	Chagollu A.B	..	·030	..	1,735	..	..		
	Ramapatam	(b) 0·010	·010	..	..	..	..	52, Mis.	18th Feb. 1918.
	Nandanavanam A	..	·015	..	100	..	..		
	Nandanavanam B extension ..	..	·045	..	284	..	..	45	11th April 1917.
	Mogilicherla, West	..	·020	..	793	..	..		
	Kavali extension No. III ..	..	..	1·450	..	..	..	123, Mis.	4th April 1918.
	Addition to Dogadarthi R.F.	..	..	0·031	..	..	..	213, Mis.	6th June 1918.
	Addition to Sriharikota R.F.	..	(c) 1·140	..	..	..	..	..	..
	Kavali extension No. II ..	0·08	0·08	(e) ..	..	..	..	284	13th Oct. 1917.
Chingleput ..	....	..	..	..	..	..	..	..	..
Chittoor ..	Addition to Gundlur reserve.	..	(d) 0·007	..	..	..	..	..	..
	Addition to Ankalammakonda reserve.	..	(d) 0·041	..	..	..	..	..	..
	Addition to Reddigunta ..	..	..	0·006	..	..	..	..	..
	Total ..	0·610	5·038	5·0245	7,638	..	..	..	..

* Excludes 30 75 acres handed over to the Salt department.

(a) Represents cost of acquisition of lands for roads and buildings.
(b) No cost was incurred as the land was at the disposal of Government.
(c) The reservation has been given up—B.P. Forest No. 219, Mis., dated 7th June 1918.
(d) This is due to revised figures furnished by District Forest Officers.
(e) Cost of acquisition paid last year.

Progress made in forest settlements during the year 1917–18—*cont.*

Forest district.	Name of forest.	Area in square miles. Finally settled during year.	In hand at commencement of year.	Taken in hand during year.	Cost during year. In forest accounts.	In other accounts.	Entire cost per square mile of areas finally settled.	Government notification of settlement. Number.	Date.
	Southern Circle.	SQ. MLS.	SQ. MLS.	SQ. MLS.	RS.				
North Vellore.	Karapet extension	0·0844	..	..	294	..	..	G.O. 117, Rev.	7th Jan. 1918.
	Addition to Shanankuppam ..	0·0042	..	..	..	..	..	G.O. 3908, Rev.	4th Dec. 1917.
	Addition to Banavaram ..	0·0703	..	..	..	..	..	G.O. 1098	20th Mar. 1918.
	Tiruvallam plantation ..	..	0·6834	..	..	..	..	..	..
	Virinjipuram „ ..	..	0 4941	..	..	..	..	..	..
	Ammundi „ ..	..	0·2500	..	..	..	..	..	..
	Vannivedu „ ..	..	0 0898	..	..	..	..	..	..
	Kilminnal „ ..	..	0·2281	..	..	..	..	..	..
	Addition to Punganur ..	..	..	0·0014	..	..	..	G.O. Mis. 1381, Rev.	10th April 1918.
South Vellore.	Arasempet extension ..	..	0·0382	..	..	..	..	..	..
West Vellore.	Mambakkam extension ..	..	0·3500	..	..	..	..	..	..
North Salem.	Kasarguli extension	0·1734	..	..	..	..	..	G.O. 3632.	16th Nov. 1917.
	Bevanurmalai and extension.	0·0078	..	..	..	..	..	G.O. 1273.	3rd April 1918.
	Hudaidurgam 4 blocks ..	..	38	..	..	..	..	..	..
	Sholapadi A extension ..	..	..	0·2734	..	..	..	G.O. Mis. 1375, Rev.	9th April 1918.
	Varattanapatti extension ..	..	..	0·0703	..	..	..	G.O. Mis. 3500, Rev.	6th Nov. 1917.
South Salem.	Arana	..	3	..	43	..	..	..	..
	Thirthagiri	..	3	..	..	..	..	..	..
	Jarugumalai	..	12	..	..	..	..	..	..
	Pallipatti extension	..	..	5·7200	..	..	..	G O. Mis. 3701, Rev.	21st Nov. 1917.
Trichinopoly.	Gundur	3·8500	..	..	297	..	..	G.O. 928, Rev.	5th Mar. 1918.
	Ariyur shola block	..	1·8100	..	..	..	..	..	..
	Shelur extension	..	0·8313	..	..	..	..	..	..
Madura. ..	Addition to Shengalvarayan reserve.	..	0·0039	..	997	..	..	..	..
Tinnevelly.	A piece of land in Srivilliputtur ghaut forest.	0·0027	..	..	..	..	..	G.O. 3535, Rev.	9th Nov. 1917.
	Karumandiamman shola and Mudangiar.	..	0·1572	..	..	..	..	..	..
	Mullakad block	..	..	1·4828	..	..	..	G.O. 186, Rev.	10th April 1918.
	Total ..	4·1928	60·9360	7·5479	1,631	..	..	..	..
	Western Circle.								
Mangalore, North.	Naravi extension No. VII ..	·02	·02	..	..	..	..	464	31st Oct. 1917.
Malabar, North.	Kanoth additions Nos. I to III.	..	..	·62	..	..	..	340	24th July 1917.
Malabar, South.	Kottanikunnu	..	·19	..	..	..	..	..	..
	Panakadan extension No. I ..	·003	·003	..	..	..	..	61	11th Feb. 1918.
The Nilgiris.	Rangaswami Peak	..	2 23	..	..	..	..	..	..
	Arambi addition No. I ..	..	·12	..	3,178	..	..	..	..
	Mikkerubettu addition ..	..	..	·04	..	..	..	119	16th Mar. 1918.
Kollegal ..	Edayarballi addition No. III.	·016	·016	..	..	..	..	338	14th July 1917.
Coimbatore, North.	Enclosures in South Bargur reserve and its additions.	..	(*a*) ·160	..	1,397 (for this and the next row)	..	..	..	..
	Enclosures in North Bargur reserve and its additions.	..	·198	..		..	..	..	..
	Enclosures in Gutialattur reserve.	..	·672	..	6,263	..	..	..	..
Coimbatore, Central.	Addition to Thadagam block No. IV.	·06	·06	..	..	..	..	347 (for this and the next row)	14th July 1917.
	Thadagam additions Nos. 2 to 21.	·087	·087	..	..	..	..		
	Total ..	·186	3·756	·66	10,838	..	..	..	..
	Grand total, Presidency ..	5	488	13	20,107	..	..	..	..

(*a*) Finally settled but reservation takes effect after close of the year.

Annual Form No. 67.

Forest Department, Madras Presidency.

Record of demarcation and maintenance of boundaries during 1917–18.

District.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at the close of the year.	Length of boundaries still to be demarcated at the close of the year.	Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year. On new work.	Expenditure on demarcation during the year. On repairs.
Northern Circle.	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	RS.	RS.
Ganjām	..	(a)&(n) 1,368	..	(n) 1,368	..	(o) 80	(p) 1,448	..	(q) 27 (d) 41 (e) — 105
Vizagapatam ..	..	(a) 564	..	564	..	19	583	..	66 (d) 3 (e) — 100
Gōdāvari, Upper ..	..	(b) 406	..	406	6	143	555	..	115 (d) 953
Do. Lower ..	..	(a) 771	..	785 (c) — 14	..	51	822	..	321 (f) — 183 (d) 144
Kistna	..	26 (a) 394	132 (c) — 3	549	..	41 (c) — 1	589	..	23 (d) 140
Kurnool, East ..	..	93 (a) 570	40	703	..	48	751	..	311
Do. South (l) ..	1	(a) 603	28	632	5	5	642	..	244
Do. West ..	..	39 (a) 533	358	(m) 930	..	100	1,028	..	353 (d) 273
Total ..	1	564 (a) 4,803	(m) 555	(m) 5,923	11	486	6,418	..	1,460 (d) 1,554 — 388
Central Circle.									
Bellary	29	4 (a) 671	981	1,685	6	..	1,691	1,283	219
Anantapur	..	40	1,806	1,846	..	..	1,846	..	231
Guntūr	..	(g) 2	(g) 1,337	1,339	..	..	1,339	..	277
Cuddapah, North ..	..	(a) & (h) 178 23	(h) 359	560	..	13	573	..	1,005
Do. South ..	..	4 (a) 98	224	326	..	40	366	..	260
Do. West ..	..	(a) & (i) 452 3	(i) 944	1,399	..	22	1,421	..	56
Nellore	..	(a) & (j) 520 14	(j) 1,445	1,979	..	84	2,063	..	498
Chingleput	..	(a) 850 4	..	854	..	..	854	..	117
Chittoor	..	(a) 1,444 3	..	1,447	..	59	1,506	..	196
Total ..	29	(a) 4,213 97	7,096	11,435	6	218	11,659	1,283	2,859

(a) Cleared by subordinates free of cost.
(b) Cleared by Hill tribes for fire protection, the cost being debited to A-VIII-f.
(c) Length of boundaries of forests disafforested.
(d) Cost of works other than boundaries of forests finally notified.
(e) Cash recovery of service payments.
(f) Erroneously debited to A-VIII-g in the audited figures.
(g) The difference between columns 3 and 4 and column 5 of the previous year's return is due to disafforestation of reserves.
(h) The difference between columns 3 and 4 and column 5 of the previous year's return is due to transfer of 69 miles to Western division.
(i) The difference between columns 3 and 4 and column 5 of the previous year's return is due to transfer of 69 miles from Northern division.
(j) The difference between columns 3 and 4 and column 5 of the previous year's return is due to the incorporation of the enclosures with the main reserves whereby their boundaries have been abandoned.
(l) Revised figures furnished by the District Forest Officer.
(m) Corrected in the Board's office.
(n) Excludes 547 miles belonging to Parlākimedi Maliahs.
(o) Do. 14 do. do.
(p) Do. 561 do. do.
(q) Do. Rs. 39–4–0 spent on repairs in Parlākimedi Maliahs.

Record of demarcation and maintenance of boundaries during 1917-18—*cont.*

District.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at the close of the year.	Length of boundaries still to be demarcated at the close of year.	Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year. On new work.	Expenditure on demarcation during the year. On repairs.
Southern Circle.	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	RS.	RS.
North Vellore	..	1,117 (a) —38	..	1,079	..	7	1,086	..	533
South do. ..	..	26 (b), (q) 682	..	(c) 708	..	15	723	..	107
West do. ..	..	479	24	503	..	13	(c) 516	..	15
South Arcot	..	1,133 (a) —43	..	1,090	..	..	1,090	..	166
North Salem	..	894	454	1,348	..	40	1,388	..	212
South do.	..	1,007	74	1,124 (d)—43	..	5	1,086	66	353
Trichinopoly	..	831	83	(e) 914	(f) 30	(g)	944	..	..
Madura	21	1,122	378	1,521	38	178	1,737	3,530	81
Tinnevelly	..	2	502	504	..	14	518	..	224
Total ..	21	(b), (p) 5,949 1,263	1,515	8,748	68	272	9,088	3,596	1,691
Western Circle.									
Mangalore, North ..	..	75	1,161 (a) — 3	1,233	..	103	1,336	..	473
Do. South ..	..	1	1,129	1,130	46	101	1,277	..	8 (n) 17
Malabar, North ..	7	12 (h) 162 (b) 38	966	1,185	9	36	1,230	505	1,078
Do. South ..	..	28 (h) 43	60	131	20	55	206	..	1,203
The Nilgiris	(j) 2	156	1,415	1,573	8 (k) 1	299	1,881	378	7,730 (k) 60
Kollegal	..	6	164	170	223 (l) —1	87	479	..	161
Coimbatore, North ..	..	20 (b) 389	133	542	28	103	673	..	346
Do. Central.	..	6 (b) 85	480	571	27	50	648	..	542
Do. South ..	..	(o) 1 (h) 20 (b) 57 (i) & (b) 8	136 (i) 6	228	..	72	300	..	(m) 31
Total ..	9	305 (h) 225 (b) 577	5,647	6,763	361	906	8,030	883	11,649
Grand total, Presidency.	60	2,454 (a) 15,542	14,813	32,869	446	1,882	35,195	5,762	18,825

(a) Disafforested.
(b) Cleared by subordinates free of cost.
(c) Correct figure as furnished by the District Forest Officer.
(d) Due to transfer of reserves from South Salem to Trichinopoly.
(e) The difference between columns 3 and 4 and column 5 of the previous year's return is due to the disafforestation of certain reserves and exclusion of class VI forests.
(f) The entry '3' entered in the previous year's return is stated to be a mistake for '30'.
(g) '24' was wrongly entered in the previous year's return.
(h) Cleared for fire-protection, the cost being debited to A-VIII (f).
(i) Omitted from the returns of the previous years by the District Forest Officer.
(j) Newly cut district boundary between the Nilgiris and Coimbatore.
(k) Preliminary demarcation.
(l) Length of boundaries of enclosures transferred to reserved forests.
(m) Cost of construction of cairns, demarcation of temples, etc.
(n) Cost of demarcation of coupes.
(o) Portion of Coimbatore-Cochin boundary; cost debited to XXV, Political.
(p) Details of boundaries cleared by forest subordinates in each division have not been furnished.
(q) Corrected in the Board's office.

ANNUAL FORM No. 69.

Forest Department, Madras Presidency.

Progress made in working-plans during 1917–18.

District.	Areas for which working-plans have been completed and approved by the Board.		Areas for which working-plans are being compiled or have been compiled but not sanctioned.		Areas for which working-plans have still to be taken in hand.	Areas for which working-plans are not at present required.	Total forest area as per Form No. 65.
	At commencement of the year.	During the year.	At commencement of the year.	Taken in hand during the year.			
			Reserved forests.				
Northern Circle.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Ganjām	624 (a)—1	..	..	..	..	..	623
Vizagapatam ..	145	..	(c) ..	..	84	83	312
Gōdāvari, Upper ..	58	107	..	..	270	..	435
Do. Lower ..	257 (b)—3	..	147 (d) —39	..	39	..	401
Kistna	150 (b)—1	..	..	92	24	..	265
Kurnool, East ..	147 ..	..	195 (b) —2	..	658 (b)—1	..	997
Do. South ..	685 (b)—6	..	81	..	..	..	760
Do. West ..	469 (b)—1	..	..	..	..	397	865
Total ..	2,523	107	382	92	1,074	480	4,658
			Reserved lands.				
Vizagapatam ..	..	..	..	..	(e) 2	..	(e) 2
Godavari, Upper ..	..	..	..	..	..	343	343
Do. Lower ..	..	..	..	..	75	..	75
Kistna	..	..	..	..	..	1	1
Total ..	..	..		..	77	344	421
Grand, total ..	2,523	107	382	92	1,151	824	5,079
Central Circle.							
Bellary	64	..	152	4	292	159	671
Anantapur ..	425	..	..	..	324	..	749
Guntūr	..	..	243	247	318	..	808
Cuddapah, North ..	(f) 50	..	..	41	501	4	596
Do. South ..	107	..	..	..	355	..	462
Do. West ..	(f) 35	..	1	..	715	..	751
Nellore	(h) 202	..	19	12	487	..	720
Chingleput ..	(g) 84	100	..	..	..	23	207
Chittoor	33	..	154	4	640	..	831
Total ..	1,000	100	569	308	3,632	186	5,795
Southern Circle.							
North Vellore ..	463	..	..	..	..	..	463
South do. ..	410	..	..	..	8	..	418
West do. ..	328	..	..	..	..	(i) ..	328
South Arcot .	154	32	..	..	56	83	325
North Salem ..	263	..	366	..	209	..	838
South do. ..	485	10	63	..	24	..	582
Trichinopoly ..	200	..	..	18	85	45	348
Madura	359 (j) — 8	..	..	..	297	(k) 12	660
Tinnevelly ..	236	..	..	..	17	178	431
Total ..	2,890	42	429	18	696	318	4,393

(a) Excluded by rounding off fractions.
(b) Disafforested.
(c) Twenty-eight square miles shown last year have been transferred to column 6 under reserved forests and reserved lands.
(d) Transferred to column 6.
(e) Leased forests.
(f) Due to transfer between the two divisions.
(g) Difference due to cancellation of working-plans.
(h) Due to disafforestation.
(i) Below one square mile.
(j) Reduction due to the area of 4 reserves placed in class V not having been treated in the revised working-plan.
(k) Area of reserves placed in class V.

Progress made in working-plans during 1917–18 —*cont.*

District.	Areas for which working-plans have been completed and approved by the Board.		Areas for which working-plans are being compiled or have been compiled but not sanctioned.		Areas for which working-plans have still to be taken in hand.	Areas for which working-plans are not at present required.	Total forest area as in form No. 65.	Entire cost per square mile of working plans completed.
	At commencement of the year.	During the year.	At commencement of the year.	Taken in hand during the year.				
				Reserved forests.				
Western Circle.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	RS.
Mangalore, North.	358	..	..	..	4	..	362	
Do. South.	436	..	..	..	..	..	436	
Malabar, North ..	178	..	..	..	85	..	263	
Do. South ..	7	..	..	96	..	37	140	
The Nilgiris ..	107	..	..	..	..	358	465	
Kollegal	53	..	22	..	160	496	731	
Coimbatore, North.	292	24	..	..	600	..	916	
Do. Central.	239	..	..	24	..	99	362	
Do. South.	76	..	..	..	34	317	427	
Total ..	1,746	24	22	120	883	1,307	4,102	
				Reserved lands.				
Malabar, North ..	..	..	..	..	1	..	1	
Do. South ..	..	..	..	..	..	*	*	
The Nilgiris ..	..	..	..	..	1	† 7	8	
Coimbatore, North.	..	..	..	..	1	..	1	
Total ..	..	..	..	..	3	7	10	
				Leased forests.				
Malabar, South ..	24	..	..	..	..	..	24	..
The Nilgiris ..	76	..	..	..	..	..	76	..
Coimbatore, South.	..	..	27	..	..	..	27	1,111
Total ..	100	..	27	..	..	..	127	1,111
Grand total, W.C.	1,846	24	49	120	886	1,314	4,239	1,111
Grand total, Presidency.	8,259	273	1,429	538	6,365	2,642	19,506	

* Less than one square mile. † Includes 4 square miles of Toda patta lands

Annual Form No. 70.

Forest Department, Madras Presidency.

Communications and Buildings during 1917–18.

District.	Roads (including bridle-paths and culverts). New works. Length.	Roads. New works. Cost.	Roads. Repairs. Length.	Roads. Repairs. Cost.	Buildings. Cost of new works.	Buildings. Cost of repairs.	Other works. Cost of new works.	Other works. Cost of repairs.
Northern Circle.	M. F. CH.	RS.	M. F. CH.	RS.	RS.	RS.	RS.	RS.
Ganjām	2 1 5	1,977	36 7 5	576 (c) 419	(j) 685	(k) 2,382 (c) 1,264	343	97
Vizagapatam	2 2 3	168	14 0 0	138	286	1,074 (c) 447	..	..
Gōdāvari, Upper ..	..	(a) 96	..	..	148	1,655 (c) 328	..	..
Do. Lower ..	..	..	38 2 0	1,574	155	1,972 (c) 1,232	755	21
Kistna	..	(b) 818	10 4 0	330	14	187 (c) 109	..	30
Kurnool, East	33 3 0	1,280	74 0 0	6,808	3,013	1,072 (c) 878	479	541
Do. South	..	..	74 0 0	3,688	2,864	581 (c) 295 (d) — 2	264 (d) + 2	55
Do. West	..	(a) 46	47 0 0	4,052	1,223	906 (c) 451	834	..
Total ..	37 6 8	4,385	294 5 5	17,585	8,388	14,831	2,677	744
Central Circle.								
Bellary	..	..	4 0 0	162	..	990	..	..
Anantapur	..	..	9 4 5	89	..	1,518	..	..
Guntūr	..	..	8 2 0	940	642	814	..	105
Cuddapah, North ..	7 4 9	427	24 3 5	605	1,342	1,612	236	68
Do. South ..	14 0 9	3,520	65 6 8	2,350	3,686	923	34	..
Do. West	6 3 1	4,274	13 1 0	429	3,018	881	..	..
Nellore	24 6 6	370	0 5 8	29	496	2,114	180	15
Chingleput	5 3 0	799	9 0 0	300	1,291	727	..	21
Chittoor	4 6 4	1,390	29 5 7	1,415	2,950	2,757	228	..
Total ..	63 0 9	10,780	164 5 3	6,319	13,425	12,336	678	209
Southern Circle.								
Vellore, North	0 6 0	1,437	1 4 0	1,266	2,478	889 (c) + 467 (f) — 6	..	29
Do. South	..	..	10 0 0	352	2,871	896 (c) + 60	612	..
Do. West	13 4 0	46	8 0 0	190	4,083	230 (c) + 93	840	..
South Arcot cum Tanjore.	..	..	20 5 0	128	30	534 (c) + 391 (e) — 103	105	20
Salem, North	..	..	83 6 0	2,299 (f)—127	2,007	2,738 (c) + 164	477	113
Do. South	3 1 3	164	55 2 0	654 (e)— 8	2,964	880 (c) + 521 (e) — 43	178	86
Trichinopoly	4 4 0	2,378	116 2 0	1,156	1,213	280 (c) + 279	63	..
Madura	(g)16 0 0	2,085	198 2 0	9,512 (c)+550	11,868	2,659	134	16
Tinnevelly	2 4 0	3,502	62 0 0	1,482 (f)+ 6	2,218	913 (c) + 397	..	44
Forest Engineer	8 5 0	49,858	..	..	..	..	..	..
Total ..	49 0 3	59,470	555 5 0	17,460	29,732	12,239	2,409	308
Western Circle.								
Mangalore, North ..	3 0 0	518	15 3 0	71	893	248 (c) 149	5	50
Do. South ..	0 3 0	143	3 3 0	189	2,027	362	306	19
Malabar, North	(h) 8 0 0	837	129 0 0	2,276	2,233	404 (c) 196	10	11
Do. South	14 4 0	2,618	50 0 0	1,646	1,117	968	360	51
The Nilgiris	9 2 0	8,533	64 5 0	3,259	..	1,413	7	1
Kollegal	6 0 0	1,419	51 0 0	965	1,037	892 (c) 377	22	69
Coimbatore, North ..	3 4 0	988	95 0 0	7,578	1,655	1,729 (c) 336	346	96
Do. Central ..	10 5 0	826	14 4 0	1,128	4,875	1,004 (c) 136	..	14
Do. South ..	0 4 0	1,231	31 1 0	4,073 (c) 380 (f)+99	1,422	1,267 (c) 244	..	117
Direction	..	.. (i) 814	..	..	..	..	..	— 3
Total ..	55 6 0	17,927	454 0 0	21,664	15,259	9,725	1,056	425
Grand total, Presidency ..	205 6 0	92,562	1,468 7 8	63.028	66,804	49,131	6,820	1,686

(a) Cost of alignment of roads
(b) Cost of materials collected for the construction of a road.
(c) Cost of establishment.
(d) Erroneously debited to VII (c) in the audited figures.
(e) Cash recovery of service payment.
(f) Added or subtracted to tally with Accountant-General's audited figure.
(g) This includes 4 miles 4 furlongs where clearing only has been done and 5 miles 2 furlongs where tracing only has been done.
(h) Represents the length of a road traced.
(i) Expenditure incurred by the Forest Engineer on the investigation of the Tekkadi tramway and credited in the accounts of the Southern Circle.
(j) Excludes Rs. 274 spent on new works in the Parlakimedi Maliahs.
(k) Excludes Rs. 39 spent on repairs in the Parlakimedi Maliahs.

ANNUAL FORM No. 71.

Forest Department, Madras Presidency.

Register of breaches of Forest Rules during 1917–18.

District.		Cases pending from 1916–17.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
			Injury to forest by fire.	Unauthorized felling.	Unauthorized grazing.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
									Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Northern Circle.															
Ganjām ..	A ..	(a) 41 (b) + 2	6	64	9	24	103	146	99	235	21	54	120	289	26
	B ..	(a) 70	..	401	30	14	445	515	336	1,346	45	282	381	1,628	134
	C ..	..	27	50	..	..	77	..	..	..	..	..	..	..	..
Total ..		(d) 113	(e) 33	(f) 515	(g) 39	(h) 38	(i) 625	(j) 661	(k) 435	(l) 1,581	(m) 66	(n) 336	(o) 501	(p) 1,917	(q) 160
Vizagapatam.	A ..	13	1	123	9	14	147	160	91	274	44	160	135	434	25
	B ..	47	..	270	35	112	417	464	359	848	26	83	385	931	79
	C ..	..	14	6	..	..	20	..	..	..	..	..	..	..	..
Total ..		60	15	399	44	126	584	624	450	1,122	70	243	520	1,365	104
Gōdāvari, Upper.	A ..	(a) 33	1	27	7	21	56	89	65	83	5	5	70	88	19
	B ..	(a) 21	1	53	10	65	129	150	88	227	20	83	108	310	42
	C ..	..	21	..	..	..	21	..	..	..	..	..	..	..	..
Total ..		54	23	80	17	86	206	239	153	310	25	88	178	398	61
Gōdāvari, Lower.	A ..	11	1	27	6	4	38	49	37	166	1	8	38	174	11
	B ..	52	..	228	29	27	284	336	296	672	6	14	302	686	34
	C ..	..	40	2	..	..	42	..	..	..	..	..	..	..	..
Total ..		63	41	257	35	31	364	385	333	838	7	22	340	860	45
Kistna	A ..	(a) 16	..	90	30	6	126	142	95	351	34	92	129	443	13
	B ..	(a) 12	..	224	157	29	410	422	173	467	187	496	360	963	62
	C ..	..	3	7	..	..	10	..	..	..	..	..	..	..	..
Total ..		28	3	321	187	35	546	564	268	818	221	588	489	1,406	75
Kurnool, East.	A ..	(a) 8	1	15	9	1	26	34	25	89	3	7	28	96	6
	B ..	(a) 24	..	270	60	8	338	362	326	902	16	40	342	942	20
	C ..	..	33	10	..	..	43	..	..	..	..	..	..	..	..
Total ..		32	34	295	69	9	407	396	351	991	19	47	370	1,038	26
Kurnool, South.	A ..	10	1	107	10	..	(c) 118	128	95	302	13	33	108	335	20
	B ..	28	..	103	44	8	155	183	148	413	8	42	156	455	27
	C ..	..	56	22	3	..	81	..	..	..	..	..	..	..	..
Total ..		38	57	232	57	8	354	311	243	715	21	75	264	790	47
Kurnool, West.	A ..	(a) 24	..	56	16	7	79	103	85	210	3	41	88	251	15
	B ..	(a) 84	1	288	61	52	402	486	381	1,003	39	59	420	1,062	66
	C ..	..	90	31	..	..	121	..	..	..	..	..	..	..	..
Total ..		108	91	375	77	59	602	589	466	1,213	42	100	508	1,313	81
Total, Northern Circle.	A ..	158	11	509	96	77	693	851	592	1,710	124	400	716	2,110	135
	B ..	338	2	1,837	426	315	2,580	2,918	2,107	5,878	347	1,099	2,454	6,977	464
	C ..	..	284	128	3	..	415	..	..	..	..	..	..	..	..
Grand Total, Northern Circle.		496	297	2,474	525	392	3,688	3,769	2,699	7,588	471	1,499	3,170	9,087	599

A = Cases taken to Court. B = Cases compounded. C = Cases undetected.

(a) The variations between the closing balance of last year and these figures are due to transfers between heads A and B.
(b) Cases relating to unreserved lands omitted from the previous year's return.
(c) Corrected in the Board's office.
(d) Excludes 94 cases belonging to the Parlakimedi Maliahs.
(e) Do. 2 do. do.
(f) Do. 272 do. do.
(g) Do. 17 do. do.
(h) Do. 8 do. do.
(i) Do. 299 do. do.
(j) Do. 393 do. do.
(k) Excludes 91 cases convicted by Court and 162 cases compounded by Special Forest Officer.
(l) Excludes 162 persons concerned in the convicted cases and 360 persons concerned in the compounded cases.
(m) Excludes 7 cases acquitted by Court and 45 cases withdrawn by Special Forest Officers.
(n) Excludes 26 persons involved in the cases acquitted by the Courts and 108 persons involved in the withdrawn cases.
(o) Excludes 305 cases belonging to Parlakimedi Maliahs.
(p) Excludes 656 persons involved in the 305 total cases belonging to Parlakimedi Maliahs.
(q) Excludes 88 pending cases belonging to Parlakimedi Maliahs.

Register of breaches of Forest Rules during 1917–18—*cont.*

District.		Cases pending from 1916–17.	New cases of the year.					Total cases.	Disposed of during the year.						Cases pending at close of year.
			Injury to forest by fire.	Unauthorized felling.	Unauthorized grazing.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
									Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
Central Circle.															
Bellary	A	(a) 33	..	133	49	7	189	222	170	563	39	108	209	671	13
	B	(a) 49	1	362	316	13	692	741	596	1,173	37	105	633	1,278	108
	C	..	..	2	8	..	10	..	..	..	..	..	..	..	..
Total		82	1	497	373	20	891	963	766	1,736	76	213	842	1,949	121
Anantapur.	A	56	2	306	159	18	485	541	360	1,048	28	89	388	1,137	153
	B	162	..	288	207	9	504	666	564	1,318	73	214	637	1,532	29
	C	..	93	35	..	..	128	..	..	..	..	..	..	..	..
Total		218	95	629	366	27	1,117	1,207	924	2,366	101	303	1,025	2,669	182
Guntur	A	200	..	289	260	6	555	755	615	2,259	24	78	639	2,337	116
	B	163	..	820	707	17	1,544	1,707	1,405	4,148	39	122	1,444	4,270	263
	C	..	..	15	..	..	15	..	..	..	..	..	..	..	..
Total		363	..	1,124	967	23	2,114	2,462	2,020	6,407	63	200	2,083	6,607	379
Cuddapah, North.	A	(a) 39	1	90	18	4	113	152	132	389	12	24	144	413	8
	B	(a) 63	1	287	106	11	405	468	382	1,076	26	44	408	1,120	60
	C	..	..	23	..	..	23	..	..	..	..	..	..	..	..
Total		102	2	400	124	15	541	620	514	1,465	38	68	552	1,533	68
Cuddapah, South.	A	(a) 4	..	43	10	..	53	57	53	99	3	10	56	109	1
	B	(a) 15	..	164	63	1	228	243	207	467	11	35	218	502	25
	C	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total		19	..	207	73	1	281	300	260	566	14	45	274	611	26
Cuddapah, West.	A	(a) 34	..	93	56	54	203	237	116	349	12	48	128	397	109
	B	(a) 60	1	224	103	80	408	468	325	778	31	102	356	880	112
	C	..	..	7	..	12	19	..	..	..	..	..	..	..	..
Total		94	1	324	159	146	630	705	441	1,127	43	150	484	1,277	221
Nellore	A	(a) 82	1	88	224	2	315	397	313	775	25	75	338	850	59
	B	(a) 216	..	438	323	6	767	983	760	1,505	..	..	760	1,505	223
	C	..	..	11	24	4	39	..	..	..	..	..	..	..	..
Total		298	1	537	571	12	1,121	1,380	1,073	2,280	25	75	1,098	2,355	282
Chingleput.	A	76	..	117	66	..	183	259	181	289	2	5	183	294	76
	B	28	..	238	217	..	455	483	406	675	42	120	448	795	35
	C	..	2	1	..	..	3	..	..	..	..	..	..	..	..
Total		104	2	356	283	..	641	742	587	964	44	125	631	1,089	111
Chittoor	A	(a) 30	..	84	68	20	172	202	171	301	15	62	186	363	16
	B	(a) 98	..	669	382	68	1,119	1,217	1,070	1,711	85	187	1,155	1,898	62
	C	..	108	..	..	..	108	..	..	..	..	..	..	..	..
Total		128	108	753	450	88	1,399	1,419	1,241	2,012	100	249	1,341	2,261	78
Total, Central Circle.	A	554	4	1,243	910	111	2,268	2,822	2,111	6,072	160	499	2,271	6,571	551
	B	854	3	3,490	2,424	205	6,122	6,976	5,715	12,851	344	929	6,059	13,780	917
	C	..	203	94	32	16	345	..	..	..	..	..	..	..	..
Grand Total, Central Circle.		1,408	210	4,827	3,366	332	8,735	9,798	7,826	18,923	504	1,428	8,330	20,351	1,468

A = Cases taken into Court. B = Cases compounded by the District Forest Officer or Revenue Divisional Officer.
C = Cases undetected.

(a) Variations between the closing balance of 1916–17 and the opening balance of 1917–18 are due to transfer of cases between A and B.

Register of breaches of Forest Rules during 1917-18—*cont.*

District.		Cases pending from 1916-1917.	New cases of the year. Injury to forest by fire.	Unauthorized felling.	Unauthorized grazing.	Other offences.	Total new cases of the year.	Total cases.	Disposed of during the year. Convictions. Cases.	Convictions. Persons.	Acquittals. Cases.	Acquittals. Persons.	Total. Cases.	Total. Persons.	Cases pending at close of year.
Southern Circle.															
North Vellore.	A ..	39	..	88	42	..	130	169	115	244	7	21	122	265	47
	B ..	213	.	777	333	6	1,116	1,329	1,095	2,289	25	110	1,120	2,349	209
	C ..	..	99	..	10	..	109	..	..	..	..	..	..	..	..
Total ..		252	99	865	385	6	1,355	1,498	1,210	2,483	32	131	1,242	2,614	256
South Vellore.	A ..	26	..	31	11	4	46	72	46	136	4	28	50	164	22
	B ..	106	1	487	175	9	672	778	536	1,159	33	73	569	1,232	209
	C ..	..	82	1	..	..	83	..	..	..	..	..	..	..	..
Total ..		132	83	519	186	13	801	850	582	1,295	37	101	619	1,396	231
West Vellore.	A ..	17	2	46	4	5	57	74	56	140	4	5	60	145	14
	B ..	{75 (a) —2}	..	341	49	13	403	476	373	1,038	18	40	391	1,078	85
	C ..	..	45	16	2	1	64	..	..	..	..	..	..	..	..
Total ..		{92 — 2}	47	403	55	19	524	550	429	1,178	22	45	451	1,223	99
South Arcot.	A ..	193	..	708	114	10	832	1,025	884	1,849	55	135	939	1,984	86
	B ..	473	..	1,164	164	29	1,357	1,830	1,189	1,957	22	51	1,211	2,008	619
	C ..	..	9	62	..	..	71	..	.	..	..	..	..	..	..
Total ..		666	9	1,934	278	39	2,260	2,855	2,073	3,806	77	186	2,150	3,992	705
North Salem.	A ..	27	..	200	22	11	233	260	227	722	9	54	236	776	24
	B ..	225	..	653	123	21	797	1,022	717	1,387	51	120	768	1,507	254
	C ..	.	56	..	..	..	56	..	..	..	..	..	..	..	..
Total ..		252	56	853	145	32	1,086	1,282	944	2,109	60	174	1,004	2,283	278
South Salem	A ..	103	..	209	20	5	234	337	221	1,059	18	81	239	1,140	98
	B ..	178	..	600	107	13	720	898	648	1,412	42	65	690	1,477	208
	C ..	..	105	9	7	..	121	..	..	..	..	..	..	..	..
Total ..		281	105	818	134	18	1,075	1,235	869	2,471	60	146	929	2,617	306
Trichinopoly.	A ..	204	1	281	49	3	334	538	351	885	37	102	388	987	150
	B ..	235		1,091	118	15	1,224	1,459	1,143	1,533	41	64	1,184	1,597	} 275
	C ..	..	31	28	5	2	66	..	..	..	..	..	..	..	
Total ..		439	32	1,400	172	20	1,624	1,997	1,494	2,418	78	166	1,572	2,584	425
Madura ..	A ..	348	8	846	151	11	1,016	1,364	863	3,163	89	322	952	3,485	412
	B ..	56	..	427	146	9	582	638	377	712	50	150	427	862	211
	C ..	..	129	29	..	1	159	..	..	..	..	..	..	..	..
Total ..		404	137	1,302	297	21	1,757	2,002	1,240	3,875	139	472	1,379	4,347	623
Tinnevelly.	A ..	22	..	144	86	3	233	255	182	470	5	23	187	493	68
	B ..	134	..	428	337	2	767	901	805	1,716	16	27	821	1,743	80
	C	..	31	2	..	..	33	..	..	..	..	..	..	..	.
Total .		156	31	574	423	5	1,033	1,156	987	2,186	21	50	1,008	2,236	148
Total, Southern Circle.	A ..	979	11	2,553	499	52	3,115	4,094	2,945	8,668	228	771	3,173	9,439	921
	B ..	{1,695 — 2}	1	5,968	1,552	117	7,638	9,331	6,883	13,153	298	700	7,181	13,853	2,150
	C ..	..	587	147	24	4	762	..	..	..	..	..	..	..	..
Grand Total, Southern Circle.		{2,674 — 2}	599	8,668	2,075	173	11,515	13,425	9,828	21,821	526	1,471	10,354	23,292	3,071

A = Cases taken into Court. B = Cases compounded. C = Cases undetected.

Register of breaches of Forest Rules during 1917–18—*cont.*

District.		Cases pending from 1916-17.	New cases of the year. Injury to forest by fire.	Unauthorized felling.	Unauthorized grazing.	Other offences.	Total new cases of the year.	Total cases.	Disposed of during the year. Convictions. Cases.	Convictions. Persons.	Acquittals. Cases.	Acquittals. Persons.	Total. Cases.	Total. Persons.	Cases pending at close of the year.
Western Circle.															
Mangalore, North.	A ..	* 18	2	17	9	8	36	54	26	96	21	53	47	149	7
	B ..	* 68	14	415	95	21	545	613	481	885	75	149	556	1,034	57
	C ..	..	40	..	..	..	40	..	..	..	..	..	..	..	..
Total ..		86	56	432	104	29	621	667	507	981	96	202	603	1,183	64
Mangalore, South.	A ..	23	13	11	8	4	36	59	43	57	5	11	48	68	11
	B ..	72	46	298	75	27	446	518	406	809	31	61	437	870	81
	C ..	..	27	..	..	..	27	..	..	..	..	..	..	..	..
Total ..		95	86	309	83	31	509	577	449	866	36	72	485	938	92
Malabar, North.	A ..	..	..	1	..	..	1	1	..	..	1	3	1	3	..
	B ..	2	2	21	1	4	28	30	27	78	2	4	29	82	1
	C ..	..	2	..	..	..	2	..	..	..	..	..	..	..	..
Total ..		2	4	22	1	4	31	31	27	78	3	7	30	85	1
Malabar, South.	A ..	..	..	..	..	7	7	7	6	7	1	8	7	15	..
	B ..	12	..	6	53	82	141	153	132	312	6	43	138	355	15
	C ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..		12	..	6	53	89	148	160	138	319	7	51	145	370	15
The Nilgiris.	A ..	* 44	2	52	66	18	138	182	139	421	1	3	140	424	42
	B ..	* 39	..	50	23	19	92	131	105	211	10	38	115	249	16
	C ..	..	28	..	..	..	28	..	..	..	..	..	..	..	..
Total ..		83	30	102	89	37	258	313	244	632	11	41	255	673	58
Kollegal.	A ..	1	..	7	5	2	14	15	12	31	1	3	13	34	2
	B ..	1	..	54	25	4	83	84	66	143	5	Not reported.	71	143	13
	C ..	..	60	4	1	1	66	..	..	..	..	..	..	..	..
Total ..		2	60	65	31	7	163	99	78	174	6	3	84	177	15
Coimbatore, North.	A ..	* 46	..	82	20	4	106	152	115	369	8	28	123	397	29
	B ..	* 54	1	208	121	8	338	392	281	922	42	164	323	1,086	69
	C ..	..	207	7	..	..	214	..	..	..	..	..	..	..	..
Total ..		100	208	297	141	12	658	544	396	1,291	50	192	446	1,483	98
Coimbatore, Central.	A ..	* 33	..	55	14	16	85	118	79	225	7	21	86	246	32
	B ..	* 36	..	252	65	35	352	388	316	691	23	83	339	774	49
	C ..	..	30	28	..	1	59	..	..	..	..	..	..	..	..
Total ..		69	30	335	79	52	496	506	395	916	30	104	425	1,020	81
Coimbatore, South.	A ..	5	1	35	4	7	47	52	46	138	..	..	46	138	6
	B ..	4	..	176	38	2	216	220	165	426	23	42	188	468	32
	C ..	..	6	..	..	..	6	..	..	..	..	..	..	..	..
Total ..		9	7	211	42	9	269	272	211	564	23	42	234	606	38
Grand, Total.	A ..	170	18	260	126	66	470	640	466	1,344	45	130	511	1,474	129
	B ..	288	63	1,480	496	202	2,241	2,529	1,979	4,477	217	584	2,196	5,061	333
	C ..	..	400	39	1	2	442	..	..	..	..	..	..	..	..
Total ..		458	481	1,779	623	270	3,153	3,169	2,445	5,821	262	714	2,707	6,535	462
Total, Presidency.	A ..	1,861	44	4,565	1,631	306	6,546	8,407	6,114	17,794	557	1,800	6,671	19,594	1,736
	B ..	3,173	69	12,775	4,898	839	18,581	21,754	16,684	36,359	1,206	3,312	17,890	39,671	3,864
	C ..	..	1,474	408	60	22	1,964	..	..	..	..	..	..	..	..
Total ..		5,034	1,587	17,748	6,589	1,167	27,091	30,161	22,798	54,153	1,763	5,112	24,561	59,265	5,600

A = Cases taken into Court. B = Cases compounded. C = Cases undetected.

* The variations between the closing balances of 1916–17 and these figures are due to transfers between heads A and B.

Annual Form No. 72.

Forest Department, Madras Presidency.

Area of forest tracts protected from fire during 1917–18.

District.	Forest tracts.	Area protected during the previous year.	During the year under report. Area attempted to be protected.	Fires.	Actually protected.	Cost during the year under report.
	Northern Circle.	ACS.	ACS.	ACS.	ACS.	RS.
Ganjām ..	Special protection ..	86,387	83,758	48	83,710	4,806
	General do. ..	171,423	217,056	1,614	215,442	756
	Total, Ganjām ..	(a) 257,810	(b) 300,814	(c) 1,662	(d) 299,152	(e) 5,562
Vizagapatam.	Special protection ..	66,208	54,425	17	54,408	1,239 (f) — 117
	General do. ..	116,731	128,612	8,492	120,120	140
	Total, Vizagapatam ..	182,939	183,037	8,509	174,528	1,262
Gōdāvari, Upper.	Special protection ..	509,154	(g) 535,370	42,780	492,590	7,170 (h) — 17
	General do. ..	..	..	..	..	..
	Total, Gōdāvari, Upper..	509,154	(g) 535,370	42,780	492,590	7,153
Gōdāvari, Lower.	Special protection ..	211,186	152,636	1,196	151,440	4,538
	General do. ..	26,254	82,929	190	82,739	909
	Total, Gōdāvari, Lower..	237,440	235,565	1,386	234,179	5,447
Kistna ..	Special protection ..	24,260	14,384	225	14,159	1,204
	General do. ..	26,582	36,874	155	36,719	230
	Total, Kistna ..	50,842	51,258	380	50,878	1,434
Kurnool, East.	Special protection ..	167,186	201,516	25,851	175,665	8,786
	General do. ..	396,215	429,978	10,416	419,562	448
	Total, Kurnool, East ..	563,401	631,494	36,267	595,227	9,234
Kurnool, South.	Special protection ..	277,203	354,660	98,769	255,891	11,622
	General do. ..	122,473	132,004	4,694	127,310	..
	Total, Kurnool, South ..	399,676	486,664	103,463	383,201	11,622
Kurnool, West.	Special protection ..	127,639	113,575	41,674	71,901	8,337
	General do. ..	374,977	440,021	108,273	331,748	..
	Total, Kurnool, West ..	502,616	553,596	149,947	403,649	8,337
Total ..	Special protection ..	1,469,223	1,510,324	210,560	1,299,764	47,568
	General do. ..	1,234,655	1,467,474	133,834	1,333,640	2,483
	Grand total ..	2,703,878	2,977,798	344,394	2,633,404	50,051
	Central Circle.					
Bellary ..	Special protection .	35,131	54,857	15,283	39,574	1,754
	General do. ..	2,179	8,007	749	7,258	..
	Total ..	37,310	62,864	16,032	46,832	1,754
Anantapur ..	Special protection ..	290,613	403,856	27,739	376,117	4,971
	General do. ..	96,752	75,696	3,100	72,596	..
	Total ..	387,365	479,552	30,839	448,713	4,971
Guntūr ..	Special protection ..	..	..	..	..	..
	General do. ..	..	..	..	..	..
	Total ..	..	..	..	..	..
Cuddapah, North.	Special protection ..	109,644	274,932	53,590	221,342	6,313
	General do. ..	115,732	55,086	11,693	43,393	..
	Total ..	225,376	330,018	65,283	264,735	6,313
Cuddapah, South.	Special protection ..	149,201	218,072	41,772	176,300	2,682
	General do. ..	32,071	45,231	5,102	40,129	..
	Total ..	181,272	263,303	46,874	216,429	2,682
Cuddapah, West.	Special protection ..	157,466	225,341	22,991	202,350	3,611
	General do. ..	86,487	116,205	45,792	70,413	621
	Total ..	243,953	341,546	68,783	272,763	4,232

(a) Excludes 122,499 acres belonging to Parlakimedi Maliahs.
(b) Do. 128,053 acres do. do.
(c) Do. 388 acres do. do.
(d) Do. 127,665 acres do. do.
(e) Do. 503 rupees being cost of fire protection in Parlakimedi Maliahs.
(f) Erroneously debited to A-VIII (G) in the audited figures.
(g) Includes the area notified under the 'India' Forest Act.
(h) Cash recovery of service payments.

Area of forest tracts protected from fire during 1917-18—*cont.*

District.	Forest tracts.	Area protected during the previous year.	During the year under report. Area attempted to be protected.	Fires.	Actually protected.	Cost during the year under report.
		ACS.	ACS.	ACS.	ACS.	RS.
	Central Circle—cont.					
Nellore ..	Special protection ..	130,042	136,844	5,288	131,556	1,165
	General do. ..	..	..	..	..	..
	Total ..	130,042	136,844	5,288	131,556	1,165
Chingleput..	Special protection ..	25,516	25,523	13	25,510	947
	General do. ..	106,695	106,695	..	106,695	..
	Total ..	132,211	132,218	13	132,205	947
Chittoor ..	Special protection ..	154,553	161,963	10,215	151,748	1,271
	General do. ..	356,612	369,742	5,741	364,001	..
	Total ..	511,165	531,705	15,956	515,749	1,271
Total ..	Special protection ..	1,052,166	1,501,388	176,891	1,324,497	22,714
	General do. ..	796,528	776,662	72,177	704,485	621
	Total ..	1,848,694	2,278,050	249,068	2,028,982	23,335
	Southern Circle.					
Vellore, North.	Special protection ..	31,052	46,474	2,561	43,913	840
	General do. ..	264,177	248,503	9,540	238,963	..
	Total ..	295,229	294,977	12,101	282,876	840
Vellore, South.	Special protection ..	99,701	100,997	920	100,077	769
	General do. ..	141,665	151,227	10,971	140,256	..
	Total ..	241,366	252,224	11,891	240,333	769
Vellore, West.	Special protection ..	101,229	101,535	2,576	98,959	858
	General do. ..	104,326	104,942	3,351	101,591	..
	Total ..	205,555	206,477	5,927	200,550	858
South Arcot cum Tanjore.	Special protection ..	13,539	13,541	1	13,540	318
	General do. ..	202,652	194,626	68	194,558	..
	Total ..	216,191	208,167	69	208,098	318
Salem, North	Special protection ..	84,495	97,484	5,732	91,752	2,580
	General do. ..	350,835	342,375	3,267	339,108	
	Total ..	435,330	439,859	8,999	430,860	2,580
Salem, South	Special protection ..	243,268	247,875	8,463	239,412	2,405
	General do. ..	129,498	108,055	1,433	106,622	..
	Total ..	372,766	355,930	9,896	346,034	2,405
Trichinopoly.	Special protection ..	88,337	101,223	1,402	99,821	315
	General do. ..	117,965	121,945	21	121,924	..
	Total ..	206,302	223,168	1,423	221,745	315
Madura ..	Special protection ..	177,686	172,692	5,309	167,383	5,221
	General do. ..	237,600	249,658	7,845	241,813	..
	Total ..	415,286	422,350	13,154	409,196	5,221
Tinnevelly	Special protection ..	32,985	35,377	3	35,374	4,935
	General do. ..	201,427	206,712	4,817	201,895	..
	Total ..	234,412	242,089	4,820	237,269	4,935
	Total, Special protection.	872,292	917,198	26,967	890,231	18,241
	Total, General protection.	1,750,145	1,728,043	41,313	1,686,730	..
	Grand total (Special and General protection).	2,622,437	2,645,241	68,280	2,576,961	18,241

Area of forest tracts protected from fire during 1917–18—*cont.*

District.	Forest tracts.	Area protected during the previous year.	During the year under report. Area attempted to be protected.	Fires.	Actually protected.	Cost during the year under report.
	Western Circle.	ACS.	ACS.	ACS.	ACS.	RS.
Mangalore, North.	Special protection ..	36,674	30,999	267	30,732	937 * + 391
	General do ..	193,373	200,966	1,690	199,276	462 † — 7
	Total ..	230,047	231,965	1,957	230,008	1,783
Mangalore, South.	Special protection ..	105,583	107,342	3,834	103,508	1,576 * + 256
	General do. ..	168,848	171,458	1,323	170,135	878
	Total ..	274,431	278,800	5,157	273,643	2,710
Malabar, North.	Special protection ..	138,942	139,089	4,266	134,823	6,231
	General do. ..	..	..	..	..	..
	Total ..	138,942	139,089	4,266	134,823	6,231
Malabar, South.	Special protection ..	104,513	104,883	205	104,678	3,604
	General do. ..	..	..	..	..	..
	Total ..	104,513	104,883	205	104,678	3,604
The Nilgiris.	Special protection ..	79,039	76,657	11 782	64,875	3,764
	General do. ..	..	..	..	..	..
	Total ..	79,039	76,657	11,782	64,875	3,764
Kollegal ..	Special protection ..	38,573	39,340	9,073	30,267	2,699
	General do. ..	383,915	399,490	87,649	311,841	..
	Total ..	422,488	438,830	96,722	342,108	2,699
Coimbatore, North.	Special protection ..	36,956	8,965	685	8,280	508
	General do. ..	524,235	577,207	141,440	435,767	1,616
	Total ..	561,191	586,172	142,125	444,047	2,124
Coimbatore, Central.	Special protection ..	84,165	94,436	595	93,841	4,092
	General do. ..	146,187	137,332	1,720	135,612	..
	Total ..	230,352	231,768	2,315	229,453	4,092
Coimbatore, South.	Special protection ..	47,371	47,522	725	46,797	2,522
	General do. ..	180,469	180,663	358	180,305	..
	Total ..	227,840	228,185	1,083	227,102	2,522
	Total, Special, Western Circle.	671,816	649,233	31,432	617,801	26,580
	Total, General, Western Circle.	1,597,027	1,667,116	234,180	1,432,936	2,949
	Grand total ..	2,268,843	2,316,349	265,612	2,050,737	29,529
	Grand total, Special protection.	4,065,497	4,578,143	445,850	4,132,293	1,15,103
	Grand tatal, General protection.	5,378,355	5,639,295	481,504	5,157,791	6,053
	Grand total, Presidency ..	9,443,852	10,217,438	927,354	9,290,084	1,21,156

* Fire-tracing Mysore-South Kanara boundary. † Cash recovery of service payments.

ANNUAL FORM No. 73.

Forest Department, Madras Presidency.

Area closed and open to grazing during 1917–18.

District.	Closed to all animals. Whole year.	Closed to all animals. Part of year.	Open to grazing. Of all animals. Whole year.	Open to grazing. Of all animals. Part of year.	Open to grazing. Of all animals except browsers (sheep and goats). Whole year.	Open to grazing. Of all animals except browsers (sheep and goats). Part of year.
NORTHERN CIRCLE.						
Reserved forests.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Ganjam	(a) 82	..	541	..	(b) ..	..
Vizagapatam	10	..	300	..	2	..
Gōdāvari, Upper	..	..	435	..	..	..
Do. Lower	71	..	330	..	..	..
Kistna	79	10	176	..	..	..
Kurnool, East	312	..	685	..	..	..
Do. South	554	..	206	..	..	..
Do. West	228	..	637	..	..	..
Total ..	1,336	10	3,310	..	2	..
Reserved lands.						
Ganjam	..	..	..	..	..	..
Vizagapatam	..	..	(c) 2	..	..	..
Gōdāvari, Upper	..	..	343	..	..	..
Do. Lower	..	..	75	..	..	..
Kistna	..	..	1	..	..	..
Kurnool, East	..	..	..	..	..	..
Do. South	..	..	..	..	..	..
Do. West	..	..	..	..	..	..
Total ..	..	..	421	..	..	..
CENTRAL CIRCLE.						
Reserved forests.						
Bellary	122	..	483	..	..	..
Anantapur	228	12	509	12	..	..
Guntūr	53	..	..	754	..	..
Cuddapah, North	67	..	528	..	..	..
Do. South	95	..	367	..	..	..
Do. West	54	..	693	..	..	..
Nellore	293	400	25	400	..	..
Chingleput	73	118	15	118	..	..
Chittoor	140	..	690	..	..	..
Total ..	1,125	530	3,310	1,284	..	..
Reserved lands.						
Bellary	66	..	..	..	..	..
Cuddapah, North	1	..	..	..	..	..
Do. West	4	..	..	..	..	..
Nellore	2	..	..	..	..	..
Total ..	73	..	..	..	..	..
SOUTHERN CIRCLE.						
Reserved forests.						
North Vellore	60	..	401	..	..	..
South do.	42	..	376	..	..	..
West do.	10	..	318	..	..	..
South Arcot cum Tanjore	92	..	233	..	..	..
North Salem	93	..	707	..	..	..
South do.	84	..	474	..	..	..
Trichinopoly	255	..	91	..	..	..
Madura	96	..	564	..	..	..
Tinnevelly	255	50	120	..	..	..
Total ..	987	50	3,284	..	..	..
Reserved lands.						
North Vellore	2	..	..	..	..	..
West do.	..	..	(d)	..	..	..
North Salem	..	..	38	..	..	..
South do.	6	..	18	..	..	..
Trichinopoly	2	..	..	..	..	..
Madura	..	..	(d)	..	..	..
Tinnevelly	..	..	2	..	..	..
Total ..	10	..	58	..	..	..

(a) Excludes 6 square miles belonging to the Parlakimedi Maliahs.
(b) Do. 194 square miles do. do.
(c) Leased forests.
(d) Area omitted being less than a square mile.

N.B.—Column 4 represents area open to grazing of all animals except goats. Goat browsing is strictly prohibited in all districts in this circle.

Areas closed and open to grazing during 1917-18—*cont.*

District.	Closed to all animals.		Open to grazing.			
			Of all animals.		Of all animals except sheep and goats.	
	Whole year.	Part of year.	Whole year.	Part of year.	Whole year.	Part of year.
WESTERN CIRCLE.						
Reserved forests.						
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Mangalore, North	8	..	354	..	..	..
Do. South	4	..	432	..	..	..
Malabar, North	12	..	..	..	251	..
Do. South	144	..	..	..	..	..
The Nilgiris	23	..	442	..	..	..
Kollegal	82	..	649	..	..	..
Coimbatore, North	45	2	866	3	..	..
Do. Central	138	1	223	..	..	..
Do. South	85	..	191	..	178	..
Total ..	541	3	3,157	3	429	..
Reserved lands.						
Malabar, North	..	..	..	..	1	..
Do. South	20	..	..	..	..	..
The Nilgiris	9	..	75	..	..	..
Coimbatore, North	..	..	1	..	..	..
Total ..	29	..	76	..	1	..
Grand Total, Presidency ..	4,101	593	13,616	1,287	432	..

Note.—Sheep but not goats were allowed to graze over the areas noted in columns (4) and (5).

ANNUAL

Forest Department,

Return of grazing in the

Districts.	Grazing on payments.									
	At enhanced or special rates.					At full rates.				
	Buffaloes.	Cows and bullocks.	Goats and sheep.	Other animals.	Fees received.	Buffaloes.	Cows and bullocks.	Goats and sheep.	Other animals.	Fees received.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NORTHERN CIRCLE.					RS.					RS.
Reserved forests.										
Ganjam	..	..	..	..	..	(g) 9,606	(h) 38,751	S 304	..	(j)10,897
Vizagapatam ..	(a) 242	(a) 3,332	(a) S 2,819	..	1,306	1,275	16,474	S 798	..	3,642
Godavari, Upper ..	..	..	..	..	..	..	..	..	..	..
Do. Lower ..	(b) 1,081	(b) 567	..	..	1,023	..	..	..	..	* 210
	(a) 3,873	(a) 3,836	..	..	2,896	.	..	S 34	..	3
Kistna	..	(c) 1,620	..	..	1,620		..	..	..	..
	(b) 407	(b) 3,573	(b) S 1,174	..	1,865	3,633	13,570	S 11,824	..	5,015
	..	..	..	..	..	..	..	..	..	† 1,365 * 242
Kurnool, East ..	(c) 1,712	(c) 9,706	..	..	11,418	1,744	6,389	S 23,659	..	4,070
	(a) 3,941	(a) 25,633	(a) S 29,603	..	12,079 * 58	..	..	..	..	..
Do. South ..	(a) 601	(a) 4,469	(a) S 4,770	..	2,014 * 5,007	3,111	15,069	S 18,022	..	5,682
Do. West ..	(c) ..	(c) 2,901	(c) S 69	..	2,936	..	..	..	..	..
	(a) 5,191	(a) 14,709	(a) S 11,880	..	7,758	4,778	26,890	S 33,574	..	9,981
Total ..	17,048	70,346	S 50,315	..	49,980	24,147	117,143	S 88,215	..	41,107
Reserved lands.										
Godavari, Upper ..	(a) 40	(d) 162	..	..	71	..	..	..	..	..
Do. Lower ..	(b) 241	(b) 60	..	..	203	..	..	..	..	*240
Total ..	281	222	..	..	274	..	..	..	..	240
Unreserved lands.										* 136
Ganjam	..	..	..	..	..	..	..	..	..	..
Godavari, Upper ..	..	..	..	..	..	..	..	..	..	..
Do. Lower ..	(a) 5,431	(a) 6,284	..	..	4,286	..	..	S 230 G 230	..	44
	..	..	..	..	..	..	..	..	..	* 1,672
Kistna	..	..	..	..	..	808	227	..	..	346 * 62
Total ..	5,431	6,284	..	..	4,286	808	227	S 230 G 230	..	2,260
Grand total ..	22,760	76,852	S 50,315	..	54,540	24,955	117,370	S 88,445 G 230	..	43,607
CENTRAL CIRCLE.										
Bellary	..	..	..	..	..	12,627	52,069	S 80,921	..	22,084
	..	..	..	..	..	..	..	..	Fodder grass.	3,573
	..	..	..	..	..	..	..	..	Panchayat fees.	9,586
Anantapur ..	26	348	591	..	261	5,268	81,064	S 139,175	..	30,222
	..	..	..	..	..	..	..	..	Fodder grass.	4,811
	..	..	..	..	..	..	..	..	Panchayat fees.	522
	..	..	..	..	..	..	..	..	Kancha rent.	40
Guntur	(a) 5,429	64,072	60,267	..	78,798	..	..	..	Fodder grass.	1,693
	(b) 4,152	23,607	35,223	..	12,381	..	..	..	Panchayat fees.	6,300
	..	..	..	..	..	..	..	..	Kancha rent.	678
	..	..	..	..	..	..	..	..	Penning fees.	116
Cuddapah, North.	(c) ..	5,167	240	..	5,745	5,088	14,433	S 47,500	..	9,068
	(d) ..	651	..	..	..	..	..	..	Fodder grass.	1
	..	..	..	..	..	..	..	..	Penning fees.	11
Do. South.	(g) ..	1,248	..	..	1,248	519	21,458	S 23,002	..	6,375
	..	..	..	..	..	..	..	..	Penning fees.	8
Do. West.	(h) ..	3,941	..	..	3,941	1,732	38,572	S 57,339	..	13,257
	..	..	..	..	..	..	..	..	Panchayat fees.	1,250
	..	..	..	..	..	..	..	..	Penning fees.	61
Nellore	(j) ..	1,519	175	..	402	39	..	..	..	15
	..	..	..	..	..	..	..	..	Fodder grass.	77
	..	..	..	..	..	..	..	..	Panchayat fees.	342
	..	..	..	..	..	..	..	..	Kancha rent.	89,789
Chingleput ..	..	..	..	..	..	..	..	..	Panchayat fees.	1,205
	..	..	..	..	..	..	..	..	Kancha rent.	33,492
Chittoor ..	(k) ..	1,109	40	..	1,129	2,193	77,002	S 41,114	..	19,115
	(l) 121	3,680	1,701	..	1,790	..	..	..	Fodder grass.	39
	..	..	..	..	..	..	..	..	Panchayat fees.	811
Total ..	9,728	105,342	98,237	..	105,695	27,466	284,598	S 389,051	..	2,54,541

Notes for N.C.— G = Goats. S = Sheep. * Sale-proceeds of fodder grass.

† Revenue from reserved forests handed over to panchayat management.

(1) The full rates are 6 annas per buffalo, 3 annas per cow, bullock or other animals and 1 anna 6 pies per sheep or goat.

(2) The enhanced or special rates are—(a) 8 annas per buffalo, 4 annas per cow or bullock and 2 annas per sheep.
(b) 12 annas per buffalo, 6 annas per cow or bullock and 3 annas per sheep.
(c) Re. 1 per buffalo, cow or bullock and annas 8 per sheep.
(d) 5 annas per cow or bullock.

(3) The privileged rates are (e) 4 annas per buffalo, 2 annas per cow or bullock and 1 anna per sheep.
(f) 1 anna per buffalo, cow or bullock.

(g) Excludes 1,408 buffaloes belonging to Parlakimedi Maliahs.
(h) Do. 2,294 cows do. do.
(j) Do. Rs. 958 being fees received in Parlakimedi Maliahs.
(m) All Agency cattle and sheep are permitted to graze free of charge.
(n) Excludes Rs. 958 being grand total of value at full rates of grazing fees received in Parlakimedi Maliahs.

FORM No. 74.

Madras Presidency.

State forests during 1917–18.

Number of animals. — At privileged rates. — Buffaloes. (12)	Cows and bullocks. (13)	Goats and sheep. (14)	Other animals. (15)	Fees received. — Actual. (16)	Fees received. — Value at full rates. (17)	Grazing free. Number of animals. — By right under settlement. — Buffaloes. (18)	Cows and bullocks. (19)	Goats and sheep. (20)	Other animals. (21)	Value of fees at full rates. (22)	During pleasure of Government or otherwise than under settlement. — Buffaloes. (23)	Cows and bullocks. (24)	Goats and sheep. (25)	Other animals. (26)	Value of fees at full rates. (27)	Total value of fees at full rates. (28)	Grand total of value at full rates. (29)
				RS.	RS.					RS.					RS.	RS	RS.
..	..	..	..	..	..	..	..	..	..	..	(m) 638	3,699	S 304	..	961	961	(n)11,858
..	..	..	..	..	..	..	..	..	..	..	..	5,007	..	..	939	939	5,887
(e) 4,444	(e) 21,749	(e) S 8,715	..	4,374	6,561	..	..	..	..	..	4,863	50,540	S 117	..	11,311	11,311	17,872
(e) 912	(e) 9,901	..	..	1,466	5,681	..	..	..	..	..	778	7,910	..	..	1,775	1,775	11,378 * 210
(f) 631	(f) 17,314	..	..	1,121		..	..	..	..	..							
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8,500
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	† 1,365
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	* 242
..	..	..	..	..	..	647	716	S 102 G5,211	..	875	..	..	..	..	..	..	28,442
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	* 58
..	..	..	..	..	..	3	..	S 46	..	5	..	..	..	..	..	..	7,701 * 5,007
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20,999
..	..	..	..	..	..	263	723	S 692 G 265	..	324	..	..	..	..	..	..	
5,987	48,964	S 8,715	..	6,961	12,242	913	1439	S 840 G5,476	..	1,204	6,279	67,156	S 421	..	14,986	14,986	1,19,519
(e) 6,135	(e) 35,454	(e) S 2,090	..	6,096	9,144	..	..	..	..	..	..	..	..	..	..	..	9,215
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	203 * 240
6,135	35,454	S 2,090	..	6,096	9,144	..	..	..	..	..	..	..	..	..	..	..	9,658
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	* 136
..	(f) 170	..	..	11	32	..	..	..	..	..	..	..	..	..	..	..	32
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,330
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	* 1,672
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	346 * 62
..	170	..	..	11	32	..	..	..	..	..	..	..	..	..	..	..	6,578
12,122	84,588	S 10,805	..	13,068	21,418	913	1439	S 840 G5,476	..	1,204	6,279	67,156	S 421	..	14,986	14,986	1,35,755
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	35,243
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	85,856
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	99,966
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	(e) 188	..	..	40	101	..	..	..	..	..	190	45	S 850	..	159	159	15,085
..	..	..	..			..	..	..	..	..	..	..	..	..	..	..	
..	(f) 150	S. 400	..			..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	765	..	..	143	..	..	..	..	..	..	7,774
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	(i) 200	..	..	19	38	..	..	..	..	..	..	..	..	..	..	..	18,547
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	90,625
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	81	..	..	15	15	34,712
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22,884
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	538	S 400	..	59	139	..	765	..	..	143	190	126	S 850	..	174	174	3,60,692

Notes for C.C.—(1) The enhanced or special rates are—

Anantapur .. As. 12 per buffalo, As. 6 per cow and As. 3 per sheep.

Guntūr .. .. { (a) Rs. 1–8–0 per buffalo, As. 12 per cow, and As. 6 per sheep.
(b) As. 8 per buffalo, As. 4 per cow and As. 2 per sheep.

Cuddapah, North { (c) Re. 1 per cow and As. 6 per sheep.
(d) As. 12 per cow.
(e) As. 1–6 per cow.
(f) Anna 1 per cow and Pies 6 per sheep.

Do. South. (g) Re. 1 per cow.

Do. West. { (h) Re. 1 per cow.
(i) As. 1–6 per cow.

Nellore .. .. (j) As. 4 per cow and As. 2 per sheep.

Chittoor .. .. { (k) Re. 1 per cow and As. 8 per sheep.
(l) As. 12 per buffalo, As. 6 per cow and As. 3 per sheep.

(2) The full rates are As. 6 per buffalo, As. 3 per cow and As. 1–6 per sheep

Forest Department, Madras.

Return of grazing in the

District.	Grazing on payment. At enhanced or special rates. Buffaloes.	Cows and bullocks.	Sheep.	Other animals.	Fees.	At full rates. Buffaloes.	Cows and bullocks.	Goats and sheep.	Other animals.	Fees received.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
SOUTHERN CIRCLE.					RS.					RS.
Vellore, North	(h) 679	(h) 37,293	(h) 12,922	..	22,556	58	2,097	270	..	440 (a) 2,712 S — 117
Do. South	(d) 424	(e) 27,894	(f) 7,753	..	17,715	3,045	27,281	10,698	..	(c) 7,281 S + 1
Do. West	.	(n) 15,661	..	..	3,915	3,136	48,152	12,378	..	(g) 11,400
South Arcot	1,468	32,693 (i) 108	42,630 (j) 922	..	21,354 285	119	1,874	613	..	453 (k) 1,626 (a) 3,030 S + 49
Salem, North	(l) 1,706	(l) 89,224	(l) 17,625	..	25,362	78	23,826	11,268	..	5,553 S + 2
Do. South	499	71,051	13,647	..	29,577	13	1,097	848	..	290 (m) 139 S 4
Trichinopoly	..	..	..	..	..	171	8,905	10,515	..	2,720 (a) 5,335 S + 1,439
Madura	(o) 543	(p) 57,704	(q) 39,830	(p) 117	25,091	..	..	..	..	..
Tinnevelly	(h) 14	(h) 3,221	(h) 376	..	1,719	631	11,799	15,314	..	3,885 (a) 575 (r) 150
Total ..	5,333	334,849	135,705	117	147,574	7,251	125,031	61,904	..	46,967
WESTERN CIRCLE.										
Reserved Forests.										
Mangalore, North ..	..	..	..	..	..	2,282	17,682	..	..	4,171
Do. South ..	..	..	..	..		3,346	19,254	..	..	4,865
Malabar, North	..	..	..	..	..	3,603	7,467	..	..	2,751
The Nilgiris	..	† 1,159	..	..	580	13,522 (b) 9	26,257 (b) 56	S 2,133	.	10,201 (a) 200
Kollegal *	3,280	71,528	S 3,494	..	19,959	..	..	..	..	..
Coimbatore, North * ..	8,396	81,982	S 28,393	..	28,243 (a) 1,421	..	..	..	..	..
Do. Central ..	..	† 827	..	..	413	172	17,413	S 9,090	..	4,182 (a) 1,015 (c) 1,286 (h) 300
Do South ..	..	..	..	..	..	471	11,345	S 365	(d) 1	2,348 (a) 1,288 (c) 435
Total ..	11,676	155,496	31,887	..	50,616	23,405	99,474	11,588	1	33,042
Reserved Lands.										
The Nilgiris	..	† 487	..		243	437	655	..	..	287
Grand total, Presidency ..	49,497	673,026	(S) 316,144	117	3,58,668	83,514	627,128	(S) 550,988 (G) 230	1	3,78,444

Notes for S.C.—The enhanced rates are : 12 annas per buffalo ; 6 annas per cow, bullock, or other animals and 3 annas per sheep. The full rates are half the enhanced rates.

(a) Collection from panchayatdars.
(b) Free removal of grass.
(c) Includes excess collection of Rs. 21.
(d) 397 buffaloes at Re. 1 and 27 buffaloes at 12 annas each.
(e) 3,686 cows at 1 rupee each, 22,092 at 8 annas each and 2,116 cows at 6 annas each.
(f) 5,104 sheep at 4 annas each and 2,649 sheep at 3 annas each.
(g) Includes excess collection of Rs. 35.
(h) The enhanced rates are Re. 1 per buffalo, 8 annas per cow and 4 annas per sheep.
(i) At 8 annas per cow.
(j) At 4 annas per sheep.
(k) Lease amount of grazing in certain reserves.
(l) The enhanced rates are 8 annas per buffalo, 4 annas per cow and 2 annas per sheep.
(m) Grazing assessment for the Malayali cattle on the Chitteris as per B.P. Forest No. 142, dated 6th October 1915.
(n) At 4 annas each.
(o) At 8 annas per buffalo.
(p) 30,651 cows at 4 annas each and 27,053 at 6 annas each and 117 other animals at 4 annas each.
(q) 7,763 sheep at 2 annas each and 32,067 sheep at 3 annas each.
(r) Lease amount for grazing in Kavalkuttiparambu reserved forest.
(s) Added or subtracted to tally with Accountant-General's audited figure.

S = Sheep. G = Goats.

Notes for W.C.—The full rates are As. 6 per buffalo, As. 3 per cow, bullock or other animals and As. 1–6 per sheep.
* Annas 8 per buffalo, As. 4 per cow, bullock or other animals and As. 2 per sheep.
† Annas 8 per head.
(a) Sale-proceeds of fodder grass.
(b) Calves, half rate.
(c) Revenue from reserves handed over to panchayat management.
(d) Elephant at Rs. 10.
(e) Annas 3 per 100 per diem.
(f) Buffaloes, cows, etc., brought for a cattle fair charged without distinction at a uniform rate of As. 2 per head.
(g) Elephant.
(h) Revenue by lease of the right to graze in certain reserves.

Presidency.

State forests during 1917–18—*cont.*

Number of animals — At privileged rates — Buffaloes. (12)	Cows and bullocks. (13)	Goats and sheep. (14)	Other animals. (15)	Fees received — Actual. (16)	Fees received — Value at full rates. (17)	Grazing free. Number of animals — By right under settlement — Buffaloes. (18)	Cows and bullocks. (19)	Goats and sheep. (20)	Other animals. (21)	Value of fees at full rates. (22)	During pleasure of Government or otherwise than under settlement — Buffaloes. (23)	Cows and bullocks. (24)	Goats and sheep. (25)	Other animals. (26)	Value of fees at full rates. (27)	Total value of fees at full rates. (28)	Grand total of value at full rates. (29)
				RS.	RS.					RS.					RS.	RS.	RS.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	(b) 683	(b) 683	26,274
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24,997
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15,315
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	(b) 69	(b) 69	26,866
..	..	..	..	..	..	..	..	..	..	..	..	150	..	..	28	28	30,945
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30,010
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9,494
..	..	..	..	..	..	..	..	..	..	..	340	3,220	211	21	1,007	1,007	26,098
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6,329
..	..	..	..	..	..	..	..	..	..	..	340	3,370	211	21	1,787	1,787	1,96,328
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,171
..	..	..	(f)21,069	2,634	(f)2,634	..	..	..	..	..	..	..	..	..	..	..	7,499
..	..	..	..	..	..	..	..	..	..	..	..	..	..	(g) 1	91	91	2,842
(e) 125	(e) 7,375	S 44,925(e)	..	197	5,641	..	..	..	..	..	2,473	..	..	..	927	927	17,549
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19,959
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29,664
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,196
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,071
125	7,375	44,925	21,069	2,831	8,275	..	..	..	..	..	2,473	..	..	1	1,018	1,018	92,951
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	530
12,247	92,501	56,130	21,069	15,958	29,832	913	2,204	840	5476	1,347	9,282	70,652	1,482	22	17,965	17,965	785,726

Abstract of animals permitted to grazing in reserved forests and reserved lands on payment.

Circle.	Buffaloes.	Bullocks or cows.	Sheep.	Goats.	Other animals.	Total.
Northern Circle	59,837	278,810	149,565	230	..	488,442
Central Circle	37,194	390,478	487,688	..	..	915,360
Southern Circle	12,584	459,880	197,609	..	117	670,190
Western Circle	35,643	263,487	88,400	..	21,070	408,600
Grand Total, Presidency ..	145,258	1,392,655	923,262	230	21,187	2,482,592

Annual Form No. 75.

Forest Department, Madras Presidency.

Area under artificial reproduction, 1917–18.

District.	Area in acres. On 1st July 1917.	Area in acres. Added during the year.	Area in acres. Excluded during the year.	Area in acres. Area on 30th June 1918.	Expenditure during the year. Creation.	Expenditure during the year. Upkeep.	Total expenditure from commencement. Creation.	Total expenditure from commencement. Upkeep.	Revenue during the year.	Total revenue from date of creation of plantation.
Northern Circle.										
A.—Regular Plantations.										
	ACS.	ACS.	ACS.	ACS.	RS.	RS.	RS.	RS.	RS.	RS.
Vizagapatam ..	51	..	..	51	..	..	1	5	187	3,446
Gōdāvari, Lower ..	266	..	38	228	..	.	31,150	15,300	4,208	64,744
Kistna	* 33	..	..	33	..	84	* 1,571	* 7,319	51	* 3,324
Kurnool, East ..	130	..	..	130	..	..	38,471	26,045	..	..
Do. West ..	1,430	..	..	1,430	..	2,729	2,92,254	63,947	..	17,898
Total ..	(a)1,910	..	38	(a)1,872	..	2,813	(b) 3,63,447	(c) 1,12,616	4,446	89,412
B.—Cultural Operations.										
Vizagapatam ..	39	16	..	55	38	..	227	..	..	..
Gōdāvari, Lower ..	2,402	..	..	2,402	..	..	2,359	1,032	..	..
Kistna	1,233	200	200	1,233	45	70	7,462	* 2,303	..	61,571
Kurnool, East ..	33	100	..	133	† 39	..	9,924	3,561	..	..
Do. South ..	187	100	..	287	260	..	4,329	1,738	..	..
Do. West ..	3,708	298	..	4,006	306	419	22,171	2,482	..	..
Total ..	7,602	(d) 714	200	(d)8,116	(e) 688	489	46,472	11,116	..	61,571
Grand total ..	9,512	714	238	9,988	688	3,302	4,09,919	1,23,732	4,446	1,50,983
Central Circle.										
A.—Regular Plantations.										
Bellary	579	..	..	579	..	..	9,423	62,495	42	196
Anantapur	..	..	..	..	..	..	..	..	..	..
Guntūr	2,007	..	252	1,755	..	..	48,286	32,344	11,499	76,319
Cuddapah, North ..	10	..	..	10	..	..	560	..	..	..
Do. South ..	146	..	..	146	..	70	23	679	..	3,042
Do. West ..	..	..	..	..	..	..	..	..	..	..
Nellore	3,270	..	500	2,770	..	..	1,56,705	16,772	22,235	6,63,199
Chingleput	..	..	..	..	..	..	..	..	..	..
Chittoor	60	..	..	60	..	557	..	1,688	43	90
Total ..	6,072	..	752	5,320	..	627	2,14,997	1,13,978	33,819	7,42,846
B.—Taungya Plantations—Nil.										
C.—Cultural Operations.										
Bellary	6,790	..	..	6,790	..	..	27,981	3,006	..	..
Anantapur	357	11	110	258	5	6	§ 22	§ 66	..	..
Guntūr	..	..	..	..	..	..	..	..	..	..
Cuddapah, North ..	..	..	..	..	..	..	..	..	..	..
Do. South ..	..	..	..	..	..	..	..	..	..	..
Do. West ..	..	..	..	..	..	..	..	..	..	..
Nellore	116	..	..	116	..	..	..	129	..	..
Chingleput ..	..	..	..	..	..	..	..	..	..	..
Chittoor	353	1,569	..	1,922	255	115	441	1,078	..	..
Total ..	7,616	1,580	110	9,086	260	121	28,444	4,279	..	..
Grand total ..	13,688	1,580	862	14,406	260	748	2,43,441	1,18,257	33,819	7,42,846

* Revised figures furnished by the District Forest Officer.

† The audited figure excludes a cash recovery of Re. 1.

§ Corresponding deductions have been made in columns 8 and 9 owing to exclusion of area in column 4.

(a) Excludes 8 acres of teak plantations belonging to Parlākimedi Maliahs.
(b) Excludes Rs. 50 being cost of creation of plantations in the Parlākimedi Maliahs.
(c) Do. 399 being cost of upkeep do. do.
(d) Do. 14 acres belonging to Parlākimedi Maliahs.
(e) Do. Rs. 7 being cost of the operations in the Parlākimedi Maliahs.

Area under artificial reproduction, 1917–18—*cont.*

District.	Area in acres. On 1st July 1917	Added during the year	Excluded during the year	Area on 30th June 1918.	Expenditure during the year. Creation.	Upkeep.	Total expenditure from commencement. Creation.	Upkeep.	Revenue during the year.	Total revenue from date of creation of plantation.
				Southern Circle.						
				A.—Regular Plantations.						
	ACS.	ACS.	ACS.	ACS.	RS.	RS.	RS.	RS.	RS.	RS.
North Vellore ..	1,835	5	..	1,841	1,743	1,262	21,732	1,35,468	2,339	88,113
Madura	1,329	..	..	1,329	..	198	60,763	7,835	248	5,129
Tinnevelly ..	5,327	18	..	5,345	934	39	7,568	1,795	3,315	11,036
Total ..	8,492	23	..	8,515	2,677	1,499	90,063	1,45,098	5,902	1,04,278
				B.—Taungya Plantations.						
North Vellore ..	1	.. *	..	1	..	..	1	..	..	..
South Arcot ..	2	.. †	..	2	..	..	..	..	..	..
Tinnevelly ..	23	..	..	23	..	119	47	132	..	..
Total ..	26	..	..	26	..	119	48	132	..	..
				C.—Cultural Operations.						
North Vellore ..	1,149	..	..	1,149	112	..	296	98	..	579
South do. ..	7,141	4,839	(a) 1,000	10,980	326	..	812 (b)—10	..	..	..
West do. ..	1,367	68	(c) 447	988	..	..	357 (d)—234	..	..	..
South Arcot ..	6,826	..	..	6,826	..	..	496	2,779	..	..
North Salem ..	143	..	..	143	98	..	9,064	..	..	..
South do. ..	1,113	390	200	1,303	136	..	1,572	100	..	..
Madura ..	..	..	..	..	..	..	(c) ..	..	..	..
Tinnevelly ..	4,017	185	..	4,202	131	82	5,655 (e)—116	(d) 6,386	15	69
Total ..	21,756	5,482	1,647	25,591	803	82	17,892	9,363	15	648
				Western Circle.						
				A.—Regular Plantations.						
Mangalore, South ..	52	..	..	52	..	..	(b) 10,357	(b) ..	..	516
Malabar, North ..	379	..	..	379	..	632	15,272	20,128	793	3,932
Do. South ..	6,511	46	3	6,554	2,772	9,308	5,42,040	5,54,800	3,81,050	25,62,039
The Nilgiris ..	1,743	..	..	1,743	..	531	6,462	3,13,028	57,881	7,16,601
Coimbatore, South ..	134	..	..	134	..	10	9,947	4,632	..	..
Total ..	8,819	46	3	8,862	2,772	10,481	5,84,078	8,92,588	4,39,724	32,83,088
				B.—Taungya Plantations.						
Malabar, North ..	635	..	..	635	..	..	..	10,828	..	..
The Nilgiris ..	19	13	..	32	137	9[illegible]	504	3,632	..	..
Total ..	654	13	..	667	137	96	504	14,460	..	..
				C.—Cultural Operations.						
Malabar, North ..	2,669	876	..	3,545	817	425	4,224	8,072	..	..
Kollegal	7,050	..	(c) 7,050	..	..	..	455	149	..	..
Coimbatore, North ..	248	13	18	243	129	29	494	32	..	..
Do. Central ..	1,590	411	..	2,001	431	41	2,313	222	..	..
Do. South ..	1,206 (a) + 4	10	..	1,220	196	164	2,981	1,677 (a) + 88	..	..
Total ..	12,767	1,310	7,068	7,009	1,573	659	10,467	10,240	..	..
Grand total, W.C. ..	22,240	1,369	7,071	16,538	4,482	11,236	5,95,049	9,17,288	4,39,724	32,83,088
Total A. Regular Plantations.	25,743	69	793	25,019	5,449	15,420	12,52,585	12,64,280	483,891	4,219,624
Total B. Taungya Plantations.	680	13	..	693	137	215	552	14,592	..	..
Total C. Cultural operations.	49,741	9,086	9,025	49,802	3,324	1,351	103,275	35,003	15	62,219
Grand total, Presidency	76,164	9,168	9,818	75,514	8,910	16,986	13,56,412	13,13,875	483,906	42,81,843

Note for Southern Circle.
- * One-fifth of an acre has been added during the year.
- † Fifteen acres shown in the district return is excluded as the operation was a failure and no expenditure incurred.
- (a) Desultory sowings in fuel coupes included in areas previous to 1916–17.
- (b) Expenditure on areas excluded on account of A in 1916–17.
- (c) Rupees 27 entered in the previous year's return omitted as the area is not known.
- (d) Excluded with reference to the instructions conveyed in B.P. No. 49, dated 1st April 1916.
- (e) Expenditure in planting bungalow compounds deducted.

Note for Western Circle.
- (a) Omitted by mistake in the last year's return by the District Forest Officer.
- (b) The figures shown in the returns of the previous years are reported to be incorrect.
- (c) Dibblings of past years discontinued.

Annual

Forest Department,

Outturn (in thousands of cubic feet solid) of timber and fuel

District.	Timber in the rough logs. Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Timber in the rough poles. Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Sawn or square timber. Government.	Purchasers.	Free-grantees.	Right-holders.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Northern (In Thousands of cubic feet.)															
I. Reserved															
Ganjām	15	49	..	3	67	..	60	..	66	126	..	4	..	..	4
Vizagapatam	1	..	..	..	1	..	2	..	..	2	..	..	..	..	..
Gōdāvari, Lower ..	1	67	1	..	69	..	..	..	..	..	..	..	..	..	..
Kistna	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..
Kurnool, East	1	..	1	..	2	8	..	2	..	10	..	..	..	..	..
Do. South	1	9	2	..	12	..	(a) 61	7	..	68	..	15	..	..	15
Do. West	19	..	..	..	19	9	5	11	1	26	..	1	..	..	1
Total, Reserved forests.	38	125	4	3	170	17	129	20	67	233	..	20	..	..	20
II. Unreserved															
Ganjām	1	113	2	1	117	1	3	..	5	9	..	19	..	..	19
Vizagapatam	..	..	..	..	..	..	12	..	..	12	..	..	..	..	..
Gōdāvari, Upper ..	4	1	..	..	5	..	7	1	..	8	..	..	..	..	..
Do. Lower ..	2	241	3	..	246	..	..	..	..	..	..	8	..	..	8
Kistna	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kurnool, East	..	3	..	..	3	..	..	..	..	..	..	..	..	..	..
Do. South ..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..
Do. West ..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..
Total, Unreserved lands.	(b) 7	(c) 358	(d) 6	1	(e) 372	(f) 1	(g) 23	1	5	(h) 30	(i) ..	27	(j) ..	..	(k) 27
Grand total ..	45	483	10	4	542	18	152	21	72	263	.	47	..	..	47
Central															
I. Reserved															
Bellary	..	..	..	..	..	4	..	..	..	4	..	..	..	..	..
Anantapur	..	14	2	..	16	..	..	..	..	..	..	..	..	..	..
Guntūr	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cuddapah, North ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. South ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. West ..	..	..	..	..	..	1	10	..	..	11	..	..	..	..	..
Nellore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chingleput	2	1	..	..	3	..	..	..	..	..	..	..	..	..	..
Chittoor	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total, Reserved forests.	2	15	2	..	19	5	10	..	.	15	..	..	..	..	..
II. Lease															
Bellary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Central Circle Remarks.

Reserved forests, Leased forest and unreserved lands—Timber and fuel— Government agency and Free grantees.—Actuals.

Timber and fuel—Purchasers.— Estimates based on accounts furnished by purchasers in reserved forests and on money value realize in unreserved lands.

(a) Corrected in the Board's Office.
(b) Excludes ·385 (thousands) of cubic feet belonging to Parlākimedi Maliahs.
(c) Do. 2·229 do. do.
(d) Do ·024 do. do.
(e) Do. 2·638 do. do.
(f) Do. ·695 do. do.
(g) Do. 7·243 do. do.
(h) Do. 7·938 do. do.
(i) Do. ·066 do. do.
(j) Do. ·60 do. do.
(k) Do. ·126 do. do.

FORM No. 76.

Madras Presidency.

during the year 1917–18 and agency of exploitation.

	Miscellaneous.					Total timber.					Fuel.					Total outturn.
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Total outturn.
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
CIRCLE.																
Forests.								(*In thousands of cubic feet.*)								
	..	..	..	..	..	15	113	..	69	197	7	315	..	427	749	946
	..	..	..	..	..	1	2	..	..	3	3	148	..	..	151	154
	..	..	..	..	..	1	67	1	..	69	4	593	..	..	597	666
	..	3	..	..	3	..	4	..	..	4	1	878	..	..	879	883
	6	6	..	..	12	15	6	3	..	24	..	..	..	..	..	24
	..	1	..	..	1	1	86	9	..	96	16	254	..	..	270	366
	1	..	..	..	1	29	6	11	1	47	61	91	..	154	306	353
	7	10	..	..	17	62	284	24	70	440	92	2,279	..	581	2,952	3,392
Lands.																
	2	3	..	..	5	4	138	2	6	150	8	207	..	..	215	365
	..	48	..	..	48	..	60	..	..	60	1	64	..	..	65	125
	5	23	4	..	32	9	31	5	..	45	6	74	..	..	80	125
	..	..	..	..	..	2	249	3	..	254	..	182	..	..	182	436
	..	44	5	..	49	..	44	5	..	49	..	74	..	..	74	123
	..	14	2	..	16	..	17	2	..	19	19	9	..	..	28	47
	..	42	..	..	42	..	42	1	..	43	..	26	..	..	26	69
	..	1	..	..	1	..	2	..	..	2	..	286	..	..	286	288
	7	(*a*) 175	(*b*) 11	..	(*c*) 193	(*d*) 15	(*e*) 583	(*f*) 18	6	(*g*) 622	(*h*) 34	(*i*) 922	..	..	(*j*) 956	(*k*) 1,578
	14	185	11	..	210	77	867	42	76	1,062	(*l*) 126	3,201	..	581	(*l*) 3,908	4,970 (*m*) 228,895
CIRCLE.																
Forests.																
	..	..	..	..	..	4	..	..	..	4	21	380	..	..	401	405
	..	..	..	..	..	..	14	2	..	16	..	24	..	..	24	40
	2	32	..	..	34	2	32	..	..	34	..	564	..	..	564	598
	1	32	12	..	45	1	32	12	..	45	3	865	..	..	868	913
	1	86	..	..	87	1	86	..	..	87	4	2,549	..	..	2,553	2,640
	2	13	..	..	15	3	23	..	..	26	6	811	..	..	817	843
	..	..	..	..	..	..	..	..	..	..	2	729	..	..	731	731
	..	..	..	..	..	2	1	..	..	3	6	296	..	..	302	305
	2	29	2	..	33	2	29	2	..	33	13	153	..	..	166	199
	8	192	14	..	214	15	217	16	..	248	55	6,371	..	..	6,426	6,674
Forests.																
	..	..	..	..	..	..	..	..	..	..	1	135	..	..	136	136

Note for Northern Circle.

REMARKS —The figures are actuals except in the following cases ;—

1. Ganjam .. Unreserved lands .. Columns 3 and 28 .. Includes an estimated quantity of 88,000 and 171,000 cubic feet respectively by the conversion of the sale-proceeds into outturn at 20 cubic feet per rupee.
2. Vizagapatam. Do. .. Outturn under purchasers. The sale amounts are converted into outturn, the factor of conversion being 20 cubic feet per rupee for timber and 20 cubic feet per 6 annas for fuel.
3. Lower Godavari. Do. .. Column 3 .. Includes 57,000 cubic feet estimated by the conversion of sale amounts into outturn at one anna a cubic foot.
4. Kistna .. Do. .. .... The sale amounts are converted into outturn, the factor of conversion being one anna a cubic foot.
5. Kurnool East. .. Do. .. Outturn under purchasers. The figures include conversion of sale amounts into outturn—
   Timber.—Rs. 2 = 20 cubic feet.
   Fuel.—Rs. 1-2-0 = 20 cubic feet.
6. Kurnool, West. Do. .. .... The sale amount is converted into outturn, the factor of conversion being 45 cubic feet per Rs. 1-4-0.

(*a*) Excludes 6·800 c.ft. belonging to Parlakimedi Maliahs.
(*b*) Do. ·020 c.ft. do. do.
(*c*) Do. 6·820 c.ft. do. do.
(*d*) Do. 1·146 c.ft. do. do.
(*e*) Do. 16·272 c.ft. do, do.
(*f*) Do. ·104 c.ft. do. do.
(*g*) Do. 17·522 c.ft. do. do.
(*h*) Do. 26·500 c.ft. do. do.
(*i*) Do. 83·273 c.ft. do. do.
(*j*) Do. 109·773 c.ft. do. do.
(*k*) Do. 227·295 c.ft. do. do.
(*l*) Do. 1·600 c.ft. do. do.
(*m*) Do. 228·895 c.ft. do. do.

Outturn (in thousands of cubic feet or thousands of cubic feet solid) of timber and fuel

Division.	Timber in the rough logs.					Timber in the rough poles.					Sawn or square timber.				
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free grantees.	Right-holders.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
CENTRAL															
III. Reserved															
IV. Unreserved															
Bellary	..	..	..	..	..	..	53	1	.	54	..	..	..	..	..
Anantapur	..	131	1	..	132	..	..	..	..	..	..	..	..	..	..
Guntūr	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cuddapah, North ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. South ..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..
Do. West ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nellore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chingleput	..	53	1	..	54	..	..	..	..	..	..	..	..	..	..
Chittoor	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total, Unreserved lands.	..	184	2	..	186	..	53	1	..	54	..	..	..	..	.
Grand total ..	2	199	4	..	205	5	63	1	..	69	..	..	..	..	..
SOUTHERN															
I. Reserved															
Vellore, North	..	16	..	..	16	..	..	..	..	..	..	..	..	..	..
Do. South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. West	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..
Salem, North	..	..	..	..	..	..	..	..	..	..	4	..	..	..	4
Do. South	1	1	..	..	2	..	..	..	..	..	..	..	..	..	..
Trichinopoly	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Madura	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Tinnevelly	1	70	..	..	71	..	7	..	..	7	..	2	..	..	2
Total ..	4	87	..	..	91	..	7	..	..	7	5	2	..	..	7
II. Leased															
III. Reserved															
IV. Unreserved															
Vellore, North	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. South	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..
Do. West	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem, North	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Do. South	2	11	..	..	13	..	1	..	..	1	..	..	..	..	..
Trichinopoly	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tinnevelly	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	2	11	..	..	13	..	1	..	..	1	2	..	..	..	2
Als															
Vellore, North	..	16	..	..	16	..	..	..	..	..	..	..	..	..	..
Do. South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. West	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arcot, South	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem, North	..	..	..	..	..	..	..	..	..	..	6	..	..	..	6
Do. South	3	12	..	..	15	..	1	..	..	1	..	..	..	..	..
Trichinopoly	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Madura	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Tinnevelly	1	70	..	..	71	..	7	..	..	7	..	2	..	..	2
Grand total ..	6	98	..	..	104	..	8	..	..	8	7	2	..	..	9
WESTERN															
I. Reserved															
Mangalore, North ..	8	..	..	..	8	..	..	..	..	..	..	..	..	..	..
Do. South ..	28	10	..	..	38	..	3	..	..	3	4	..	..	..	4
Malabar, North ..	3	2	..	..	5	4	..	..	..	4	72	27	..	..	99
Do. South ..	17	7	..	..	24	23	..	..	..	23	..	..	..	..	..
The Nilgiris ..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Kollegal	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..
Coimbatore, North ..	..	6	..	..	6	..	..	..	..	..	12	..	..	..	12
Do. Central ..	6	114	..	..	120	..	..	..	..	..	..	..	..	..	..
Do. South ..	..	7	..	..	7	1	..	..	..	1	1	..	..	..	1
Total ..	62	147	..	..	209	29	3	..	..	32	89	27	..	..	116
II. Leased															
Malabar, South ..	205	..	..	..	205	63	..	..	..	63	..	..	..	..	..
The Nilgiris .	3	..	..	..	3	2	..	..	..	2	36	..	..	..	36
Coimbatore, South ..	2	..	..	..	2	..	..	..	..	..	11	..	..	..	11
Total ..	210	..	..	..	210	65	..	..	..	65	47	..	..	..	47

during the year 1917-18, and agency of exploitation—*cont.*

	Miscellaneous.					Total timber.					Fuel.					
	Government. (17)	Purchasers. (18)	Free-grantees. (19)	Right-holders. (20)	Total. (21)	Government. (22)	Purchasers. (23)	Free-grantees. (24)	Right-holders. (25)	Total. (26)	Government. (27)	Purchasers. (28)	Free-grantees. (29)	Right-holders. (30)	Total. (31)	Total outturn. (32)
CIRCLE—*cont.*																
Lands—Nil.																
Lands.																
	..	..	..	..	..	..	53	1	..	54	..	146	..	..	146	200
	..	..	..	..	..	..	131	1	..	132	..	100	..	..	100	232
	..	133	9	..	142	..	133	9	..	142	..	147	..	..	147	289
	..	8	..	.	8	..	8	..	..	8	..	70	..	..	70	78
	..	13	..	..	13	..	13	..	..	13	..	63	..	..	63	76
	..	16	2	..	18	..	16	2	..	18	..	185	..	..	185	203
	..	50	14	..	64	..	50	14	..	64	..	69	..	..	69	133
	..	..	..	..	..	..	53	1	..	54	..	93	..	..	93	147
	..	191	2	..	193	..	191	2	..	193	..	258	..	..	258	451
	..	411	27	..	438	..	648	30	..	678	..	1,131	..	..	1,131	1,809
	8	603	41	..	652	15	865	46	..	926	56	7,637	..	..	7,693	8,619
CIRCLE.																
Forests.																
	..	..	..	..	..	..	16	..	..	16	1	158	..	..	159	175
	1	4	..	..	5	1	4	..	..	5	3	138	..	..	141	146
	9	6	..	..	15	9	6	..	..	15	..	107	..	..	107	122
	..	..	..	..	..	..	..	..	..	..	2	683	..	..	685	685
	..	1	..	..	1	4	1	..	..	5	2	71	..	..	73	78
	..	..	..	..	..	1	1	..	..	2	..	93	..	..	93	95
	..	..	..	..	..	1	..	..	..	1	5	89	..	..	94	95
	..	..	..	..	..	2	..	..	..	2	3	587	..	..	590	592
	..	3	..	..	3	1	82	..	..	83	21	645	..	..	666	749
	10	14	..	..	24	19	110	..	..	129	37	2,571	..	..	2,608	2,737
Forests—Nil.																
Lands—Nil.																
Lands.																
	..	60	3	..	63	..	60	3	..	63	..	95	..	..	95	158
	..	9	2	..	11	..	9	2	..	11	3	21	..	..	24	35
	..	4	1	..	5	..	4	1	..	5	..	12	..	..	12	17
	..	18	4	..	22	..	18	4	..	22	..	428	..	..	428	450
	..	141	3	..	144	2	141	3	..	146	..	112	..	..	112	258
	..	75	..	..	75	2	87	..	..	89	..	47	..	..	47	136
	..	141	3	..	144	..	141	3	..	144	..	2,037	..	..	2,037	2,181
	..	211	2	..	213	..	211	2	..	213	..	85	..	..	85	298
	..	7	6	..	13	..	7	6	..	13	..	218	3	..	221	234
	..	666	24	..	690	4	678	24	..	706	3	3,055	3	..	3,061	3,767
tract.																
	..	60	3	..	63	..	76	3	..	79	1	253	..	..	254	333
	1	13	2	..	16	1	13	2	..	16	6	159	..	..	165	181
	9	10	1	..	20	9	10	1	..	20	..	119	..	..	119	139
	..	18	4	..	22	..	18	4	..	22	2	1,111	..	..	1,113	1,135
	..	142	3	..	145	6	142	3	..	151	2	183	..	..	185	336
	..	75	..	..	75	3	88	..	..	91	..	140	..	..	140	231
	..	141	3	..	144	1	141	3	..	145	5	2,126	..	..	2,131	2,276
	..	211	2	..	213	2	211	2	..	215	3	672	..	..	675	890
	..	10	6	..	16	1	89	6	..	96	21	863	3	..	887	983
	10	680	24	..	714	23	788	24	..	835	40	5,626	3	..	5,669	6,504
CIRCLE.																
Forests.																
	2	18	..	..	20	10	18	..	..	28	92	602	..	..	694	722
	..	..	..	..	..	32	13	..	..	45	123	..	..	..	123	168
	.	..	..	..	..	79	29	..	..	108	..	..	..	..	..	108
	..	..	..	..	..	40	7	..	..	47	..	..	..	..	..	47
	..	..	..	..	..	..	1	..	..	1	579	29	..	..	608	609
	4	..	..	..	4	5	..	..	..	5	..	146	..	..	146	151
	3	..	..	..	3	15	6	..	..	21	..	417	..	..	417	438
	..	..	1	..	1	6	114	1	..	121	45	2,504	..	..	2,549	2,670
	1	9	1	..	11	3	16	1	..	20	..	432	..	..	432	452
	10	27	2	..	39	190	204	2	..	396	839	4,130	..	..	4,969	5,365
Forests.																
	..	..	..	..	..	268	..	..	..	268	9	..	..	..	9	277
	..	..	..	..	..	41	..	..	..	41	..	..	..	..	..	41
	3	..	..	.	3	16	..	..	..	16	..	..	..	..	..	16
	3	..	..	..	3	325	..	..	..	325	9	..	..	..	9	334

Timber and fuel—Government agency and free grantees.—Actuals.
Reserved forests—Purchasers—Timber—Estimates based on the amounts realized.
Reserved forests and reserved lands—Purchasers—Fuel.—Estimates based chiefly on the accounts furnished by coupe contractors.
Unreserved lands—Timber and fuel—Purchasers.—Estimates based on the money value realized.

Outturn (in thousands of cubic feet or thousands of cubic feet solid) of timber and fuel

Division	Timber in the rough logs.					Timber in the rough poles.					Sawn or square timber.				
	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
WESTERN															
III. Reserved															
IV. Unreserved															
Mangalore, North ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do. South ..	..	99	..	5	104	2	..	..	..	2	..	..	..	..	..
The Nilgiris ..	..	31	..	..	31	..	..	..	..	..	..	..	..	..	..
Kollegal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coimbatore, North ..	..	71	1	..	72	..	..	..	..	..	..	..	..	..	..
Do. Central..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	..	201	1	5	207	2	..	..	..	2	..	..	..	..	..
Grand total ..	272	348	1	5	626	96	3	..	..	99	136	27	..	..	163
Presidency total— *Reserved Forests* ..	106	374	6	3	489	51	149	20	67	287	94	49	..	..	143
Leased Forests ..	210	..	..	..	210	65	..	..	..	65	47	..	..	..	47
Unreserved Lands. ..	9	754	9	6	778	3	77	2	5	87	2	27	..	..	29
Grand total, Presidency.	325	1,128	15	9	1,477	119	226	22	72	439	143	76	..	..	219

REMARKS.—The figures are actuals except in the following cases :—

	Factor of conversion.
Mangalore, North—Outturn under " purchasers " unreserved lands.	*Timber.*—The sale amount is converted into yield, the factor of conversion being 16 cubic feet per rupee. *Fuel.*—The sale amount is converted into yield, the factor of conversion being 3 pies per cubic foot.
Mangalore, South—Outturn under all agencies except " Government "	One tree = 25 cubic feet.
South Malabar—Reserved forests (column 2), 8,620 cubic feet ..	On log = 20 cubic feet.
Leased forests (column 2), 117,257 do. ..	One log of above 4 candies = 52 cubic feet. Do. from 2 to 4 candies = 26 cubic feet. Do. under 2 candies = 20 cubic feet. One short log = 4 cubic feet. Measurables = 6 cubic feet.
Reserved forests (column 7), 23,192 do. .. Leased forests (column 7), 20,680 do. ..	Smaller classes of saplings are calculated approximately as per standard measurements
The Nilgiris—Timber from unreserved lands is converted on sums	realized at Rs. 1-4-0 per cart-load of 20 cubic feet.
Kollegal—Reserved forests (column 7)	593 poles ; 1 pole = 2·34 cubic feet.
Do. (column 17)	544 quarters of sandalwood at half a cubic foot per quarter.
Central Coimbatore—Reserved forests (column 24) Unreserved lands (columns 23, 24 and 28) ..	The sale amount is converted into yield, the factor of conversion being one anna per cubic foot.

during the year 1917–18 and agency of exploitation—*cont.*

Miscellaneous.					Total timber.					Fuel.					
Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Government.	Purchasers.	Free-grantees.	Right-holders.	Total.	Total outturn.
(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
CIRCLE—cont.															
Lands—Nil.															
Lands.															
..	399	2	22	423	..	399	2	22	423	..	540	..	..	540	963
..	..	..	..	..	2	99	..	5	106	1	123	..	..	124	230
..	..	..	..	..	..	31	..	..	31	..	..	..	..	..	31
..	16	..	..	16	..	16	..	..	16	..	..	..	..	..	16
..	..	..	..	..	..	71	1	..	72	..	34	..	..	34	106
..	43	8	..	51	..	43	8	..	51	..	76	..	..	76	127
..	458	10	22	490	2	659	11	27	699	1	773	..	..	774	1,473
13	485	12	22	532	517	863	13	27	1,420	849	4,903	..	..	5,752	7,172
35	243	16	..	294	286	815	42	70	1,213	1,023	15,351	..	581	16,955	18,168
3	..	..	..	3	325	..	..	..	325	10	135	..	..	145	470
7	1,710	72	22	1,811	21	2,568	83	33	2,705	38	5,881	3	..	5,922	8,627
45	1,953	88	22	2,108	632	3,383	125	103	4,243	1,071	21,367	3	581	23,022	27,265

Annual Form No. 77.

Forest Department, Madras Presidency.

Outturn of minor forest produce during the year 1917–18.

Circle.	Description of produce.	Produce removed or utilized. By Government agency. Quantity.	By Government agency. Value.	By purchasers. Value.	By free grantees. Value.	By right-holders. Value.	Total. Value.
	Reserved Forests.	NO.	RS.	RS.	RS.	RS.	RS.
Northern Circle	Bamboos	619,522	9,567	86,362	1,429	641	97,999
	Grazing and fodder grass ..	..	..	* 93,141	14,986	1,204	1,09,331
	Other produce.	QRS.					
	Grass (hay, thatch, korai, etc.).	7,317	66	12,432	111	..	12,609
	Tamarind, soapnuts, galnuts, nux-vomica, shekoi, etc.	44,898	8,587	15,330	..	23,070	46,987
	Horns, honey, wax, resin, gum, skins, etc.	..	..	556	..	..	556
	Tangedu, etc., barks and fibres.	5,032	2,260	1,23,719	..	..	1,25,979
	Stone, gravel, earth, etc. ..	13,749	100	673	63	..	836
	Leaves for platters	..	..	69	..	..	69
	Date and palmyra leaves, stalks, etc.	..	..	36	..	..	36
	Manure leaves and thorns ..	280	1	979	..	..	980
	Miscellaneous including tree-tapping and tree owner's fees.	16,028	6,387	8,315	..	501	15,203
	Total minor produce ..	87,304	17,401	1,62,109	174	23,571	2,03,255
	Total, Reserved forests ..	..	26,968	3,41,612	16,589	25,416	4,10,585
	Reserved Lands.	NO.					
	Bamboos	300	3	58	..	..	61
	Grazing and fodder grass ..	..	..	6,610	..	..	6,610
	Other produce.	QRS.					
	Grass (tharbi, korai, etc.) ..	800	1	18	..	..	19
	Tamarind, soapnuts, galnuts. nux-vomica, shekoi, etc.	31	2	..	..	..	2
	Honey. horns, wax, resin, gum skins, etc.	2	2	..	..	..	2
	Total minor produce ..	833	5	18	..	..	23
	Total, Reserved lands ..	..	(a) 8	(b) 6,686	..	..	6,694
	Unreserved Lands.	NO.					
	Bamboos	11,892	153	47,953	141	64	48,311
	Grazing and fodder grass ..	..	..	6,557	..	..	6,557
	Other produce.	QRS.					
	Grass (tharbi, korai, etc.). ..	5,196	42	582	36	..	660
	Tamarind, soapnuts, galnuts, nux-vomica, shekoi, etc.	2,364	157	34,421	..	..	34,578
	Horns, honey, wax, resin, gum, skins, etc.	9	10	650	..	..	660
	Tangedu, etc., barks and fibres.	..	..	15,373	..	..	15,373
	Stone, gravel, earth, etc. ..	..	..	4,087	10	..	4,097
	Leaves for platters	..	..	229	..	..	229
	Date and palmyra leaves, stacks, etc.	..	..	21	44	..	65
	Manure leaves and thorns ..	..	..	1,366	..	..	1,366
	Miscellaneous including tree tapping and tree owner's fees.	138	872	60,613	..	..	61,485
	Total minor produce ..	7,707	1,081	1,17,342	90	..	1,18,513
	Total, Unreserved lands ..	..	1,234	1,71,852	231	64	1,73,381

* Excludes Rs. 4,907, the value of hay credited to II (*d*).

(*a*) Excludes Rs. 40, the value of minor produce collected in the Parlakimedi Maliahs.

(*b*) Excludes Rs. 11,729, being value of minor produce removed by purchasers in the Parlakimedi Maliahs.

Outturn of minor forest produce during the year 1917–18—*cont.*

Circle.	Description of produce.	Produce removed or utilized — By Government agency. Quantity.	By Government agency. Value.	By purchasers. Value.	By free grantees. Value.	By right-holders. Value.	Total. Value.
	Abstract for the circle.	NO.	RS.	RS.	RS.	RS.	RS.
Northern Circle —cont.	Bamboos in number	631,714	9,723	1,34,373	1,570	705	1,46,371
	Grazing and fodder grass ..	..	..	1,06,308	14,986	1,204	1,22,498
	Other produce in quarters ..	95,844	18,487	2,79,469	264	23,571	3,21,791
	Grand total, Northern circle ..	..	28,210	5,20,150	16,820	25,480	5,90,660
Central Circle ..	Bamboos	NO. 11,175	130	26,803	125	..	27,058
	Grazing and fodder grass ..	..	..	3,60,295	174	143	3,60,612
	Grass (thatch) and korai, etc. ..	5,628	74	3,586	17	..	3,677
	Tamarind, soapnuts and gallnuts.	9,615	14,667	74,051	..	..	88,718
	Horns, honey, wax, gum, etc.	..	..	1,304	..	..	1,304
	Tangedu, vembadam, etc. ..	2,214	2,678	3,59,155	..	..	3,61,833
	Mica stane, gravel, etc. ..	..	..	26,849	217	..	27,066
	Manure leaves, thorns, etc. ..	..	..	8,316	..	..	8,316
	Date, palmyra leaves, etc. ..	24	7	12,461	333	..	12,801
	Miscellaneous including tree-tapping and tree-owners' fees and hay.	372,913	1,06,469	1,02,696	..	..	2,09,165
	Total ..	390,394	1,23,895	5,88,418	567	..	7,12,880
	Grand total ..	..	1,24,025	9,75,516	866	143	11,00,550
Southern Circle ..	Bamboos	NO. 6,838	532	1,14,675	290	..	1,15,497
	Grazing and fodder grass ..	MDS. 30,947	11,399	1,94,541	780	1,007	2,07,727
	Grass (thatch, korai, etc.) ..	460	3	4,502	49	47	4,601
	Dammer, cardamoms, etc. ..	..	..	11,347	..	..	11,347
	Tamarind, soapnuts, gallnuts, etc.	2,075	3,635	27,032	..	..	30,667
	Avaram, vembadam, etc., barks	4,182	2,746	38,717	..	..	41,463
	Stones, gravel and earth ..	576	2	14,019	..	1,847	15,868
	Manure leaves, thorns, etc. ..	..	..	9,192	..	..	9,192
	Horns, honey, wax, gum, etc. ..	..	..	224	..	..	224
	Date, palmyra leaves, etc. ..	..	..	4,246	15	..	4,261
	Miscellaneous, including tree-tapping fees.	2,900	2,224	1,34,990	11	1,005	1,38,230
	Total ..	41,140	20,009	4,38,810	855	3,906	4,63,580
	Grand total ..	..	20,541	5,53,485	1,145	3,906	5,79,077
	Reserved forests.	NO.					
Western Circle ..	Bamboos in number	65,368	3,508	36,122	2	..	39,632
	Grazing and fodder grass ..	Q RS. 81,920	14,341	86,489	927	..	1,01,757

NOTE.—This return shows the outturn or demand accrued during the year as per heading but Form No. 80 shows actual collections. Form No. 77 will not therefore agree with Form No. 80.

Outturn of minor forest produce during the year 1917-18—*cont.*

Circle.	Description of produce.	Produce removed or utilized: By Government Agency. Quantity.	By Government Agency. Value.	By purchasers. Value.	By free grantees. Value.	By right-holders. Value.	Total. Value.
	Other produce.	QRS.	RS.	RS.	RS.	RS.	RS.
Western Circle—*cont.*	Grass (thatch, korai, etc.) ..	314	44	286	17	..	347
	Dammer, turmeric, pepper, cardamoms, etc.	..	..	2,371	..	..	2,371
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoi, etc.	461	758	19,132	..	..	19,890
	Horns, honey, wax, gum, resin, skins, etc.	127	1,450	1,249	..	..	2,699
	Avaram, vembadam, etc., barks and fibres.	773	532	10,293	..	..	10,825
	Stones, earth, gravel, etc. ..	..	..	1,098	479	..	1,577
	Manure leaves, thorns, etc. ..	..	..	4,963	..	..	4,963
	Date and palmyra leaves ..	..	..	1,382	..	..	1,382
	Miscellaneous	210	324	14,109	..	..	14,433
		1,885	3,108	54,883	496	..	58,487
	Total ..	..	20,957	1,77,494	1,425	..	1,99,806
	Leased forests.						
	Bamboos in number	117,285	6,634	95	..	..	6,729
	Grazing and fodder grass ..	..	..	530	..	..	530
	Other produce.	QRS.					
	Grass (thatch, korai, etc.) ..	..	..	22	..	..	22
	Horns, honey, wax, gum, resin, skins, etc.	51	650	..	..	..	650
	Miscellaneous	..	..	80	..	..	80
		51	650	102	..	..	752
	Total ..	..	7,284	727	..	..	8,011
	Unreserved lands.	NOS.					
	Bamboos in number	..	..	417	6	..	423
		QRS.					
	Grazing and fodder grass ..	24,555	9,220	..	..	..	9,220
	Other produce.	QRS.					
	Catechu	1,340	12,562	..	..	..	12,562
	Grass (thatch, korai, etc.) ..	..	..	..	15	..	15
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoi, etc.	..	..	5,476	..	..	5,476
	Avaram, vembadam, etc., barks and fibres.	..	..	4,444	..	..	4,444
	Stones, gravel, earth, etc. ..	..	..	921	..	..	921
	Manure leaves, thorns, etc. ..	..	..	11	..	..	11
	Date and palmyra leaves ..	..	..	2,151	..	..	2,151
	Miscellaneous	..	..	12,340	..	..	12,340
		1,340	12,562	25,343	15	..	37,920
	Total ..	..	21,782	25,760	21	..	47,563
	Abstract for the Circle.	NOS.					
	Bamboos in number	182,653	10,142	36,334	8	..	46,784
		QRS.					
	Grazing and fodder grass ..	106,475	23,561	87,019	927	..	1,11,507
	Other produce	3,276	16,320	80,328	511	..	97,159
	Grand total, Western Circle ..	..	50,023	2,03,981	1,446	..	2,55,450
		NO.					
	Total, Presidency, Bamboos ..	832,380	20,527	3,12,485	1,993	705	3,35,710
	Grazing and fodder-grass ..	..	34,960	7,48,163	16,867	2,374	8,02,364
	Other produce	..	1,67,312	11,92,484	1,417	26,470	13,87,683
	Grand total, Presidency ..	..	2,22,799	22,53,132	20,277	29,549	25,25,757

ANNUAL FORM No. 78.

Forest Department, Madras Presidency.

Account of timber, fuel, bamboos and minor produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1917–18.

Name of district.	Balance at commencement of the year in forest and sale depots.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depots.
TIMBER (IN THOUSANDS OF CUBIC FEET).					
Northern Circle.					
Ganjam	(e) 4	(f) 19	(g) 23	(h) 13	(i) 10
Vizagapatam	4	1	5	3 (a) 2	..
Gōdāvari, Upper	13	9	22	2 (b) 18	2
Do. Lower	11	3	14	9 (b) 3	2
Kurnool, East	2	15	17	16	1
Do. South	6	1	7	..	7
Do. West	58	29	87	64	23
Total ..	98	77	175	1 [illegible]	45
Central Circle.					
Bellary	1	4	5	5	..
Anantapur	..	..	..	..	..
Guntūr	..	2	2	1	1
Cuddapah, North	1	1	2	2	..
Do. South	..	1	1	1	..
Do. West	1	3	4	3	1
Nellore	..	..	..	..	..
Chingleput	..	2	2	2	..
Chittoor	..	2	2	2	..
Total ..	* 3	15	18	16	2
Southern Circle.					
Vellore, North	1	..	1	1	..
Do. South	4	1	5	4	1
Do. West	3	9	12	8	4
Arcot, South	..	..	..	..	..
Salem, North	1	6	7	6	1
Do. South	..	3	3	2	1
Trichinopoly	1	1	2	1	1
Madura	..	2	2	2	..
Tinnevelly	..	1	1	..	1
Total ..	10	23	33	24	9
Western Circle.					
Mangalore, North	4	10	14	11	3
Do. South	16	34	50	31 (b) 1	18
Malabar, North	1	79	80	37 (b) 1	42
Do. South	267	308	575	171 (b) 1 (a) 8	395
The Nilgiris	18	41	59	56 (b) 1	2
Kollegal	..	5	5	1 (c) 3	1
Coimbatore, North	5	15 (c) 3	23	9 (a) 2	12
Do. Central	2	6	8	4 (b) 2	2
Do. South	274 (d) + 5	19	298	80 (b) 1 (a) 24	193
Total ..	592	520	1,112	444	668
Grand total, Presidency ..	703	635	1,338	614	724

* Difference due to entering in thousands.

(a) Written off the accounts.
(b) Used departmentally.
(c) Transferred from Kollegal to North Coimbatore.
(d) Excess found at the inspection of depots.

(e) Excludes 1,129 c.ft. belonging to Parlakimedi Maliahs.
(f) „ 1,146 c.ft. „ „
(g) „ 2,275 c.ft. „ „
(h) „ 1,461 c.ft. „ „
(i) „ 814 c.ft. „ „

Account of timber, fuel, bamboos and minor produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1917-18—*cont.*

Name of district.	Balance at commencement of the year in forest and sale depots.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depots.
FUEL (IN THOUSANDS OF CUBIC FEET).					
Northern Circle.					
Ganjām	5	(*f*) 15	(*f*) 20	(*g*) 14	(*h*) 6
Vizagapatam	..	4	4	1	3
Gōdāvari, Upper	3	6	9	3	6
Do. Lower	7	4	11	11	..
Kistna	..	1	1	..	1
Kurnool, East	(*e*) 7	19	26	15	11
Do. South	..	16	16	..	16
Do. West	149	61	210	155	55
Total ..	171	126	297	199	98
Central Circle.					
Bellary	3	22	25	23	2
Anantapur	..	..	..	..	..
Guntūr	..	..	..	..	..
Cuddapah, North	..	3	3	1	2
Do. South	..	4	4	4	..
Do. West	..	6	6	6	..
Nellore	..	2	2	2	..
Chingleput	1	6	7	5	2
Chittoor	..	13	13	13	..
Total ..	(*d*) 4	56	60	54	6
Southern Circle.					
Vellore, North	..	1	1	1	..
Do. South	..	6	6	5	1
Do. West	..	..	..	..	..
Arcot, South	..	2	2	2	..
Salem, North	..	2	2	2	..
Do. South	..	..	..	..	..
Trichinopoly	..	5	5	3	2
Madura	..	3	3	3	..
Tinnevelly	..	21	21	11	10
Total ..	..	40	40	27	13
Western Circle.					
Mangalore, North	61	92	153	53 (*a*) 6	94
Do. South	94	124	218	90 (*b*) 1 (*a*) 10	117
Malabar, South	7	9	16	8 (*b*) 1	7
The Nilgiris	138	579	717	552 (*a*) 6 (*b*) 1	158
Coimbatore, Central	9	45	54	49 (*b*) 1	4
Total ..	(*c*) 309	849	1,158	778	380
Grand total, Presidency ..	484	1,071	1,555	1,058	497

(*a*) Written off the accounts.
(*b*) Used departmentally.
(*c*) The difference between this and the last year's closing balance is due to exhibiting the figures in thousands of cubic feet.
(*d*) Difference due to entering in thousands.
(*e*) Revised figure furnished by the District Forest Officer.
(*f*) Excludes 28,100 c.ft. belonging to Parlakimedi Maliahs.
(*g*) „ 14,000 c.ft. „ „
(*h*) „ 14,100 c.ft. „ „

Account of timber, fuel, bamboos and minor produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1917–18—*cont.*

Name of district.	Balance at commencement of the year in forest and sale depots.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depots
BAMBOOS (NUMBER).					
Northern Circle.					
Ganjām	400	12,070	12,470	12,430	40
Vizagapatam	..	2,217	2,217	2,217	..
Gōdāvari, Upper	750	9,170	9,920	(*b*) 9,620 (*a*) 300	..
Do. Lower	897	14,849	15,746	(*b*) 12,990 944	1,812
Kurnool, East	14,177	168,381	182,558	136,082	46,476
Do. South	..	750	750	(*b*) 750	..
Do. West	..	424,277	424,277	355,720	68,557
Total ..	16,224	631,714	647,938	531,053	116,885
Central Circle.					
Bellary	100	..	100	100	..
Anantapur	..	..	..	..	..
Guntūr	..	320	320	320	..
Cuddapah, North	2,770	180	2,950	950	2,000
Do. South	60	1,144	1,204	1,152	52
Do. West	..	1,595	1,595	795	800
Nellore	..	..	..	..	..
Chingleput	30	100	130	130	..
Chittoor	..	7,836	7,836	6,956	880
Total ..	2,960	11,175	14,135	10,403	3,732
Southern Circle.					
Vellore, North	..	1,158	1,158	972	186
Do. South	..	25	25	25	..
Do. West	..	..	..	..	..
Arcot, South	..	2,193	2,193	2,193	..
Salem, North	50	350	400	398	2
Do. South	..	1,275	1,275	1,275	..
Trichinopoly	..	25	25	..	25
Madura	..	250	250	250	..
Tinnevelly	..	1,562	1,562	1,562	..
Total ..	50	6,838	6,888	6,675	213
Western Circle.					
Mangalore, North	..	3,464	3,464	2,440 (*b*) 800	224
Do. South	240	5,550	5,790	4,591 (*b*) 600 (*a*) 104	495
Malabar, North	1,392	2,268	3,660	1,900 (*b*) 1,060	700
Do. South	62,557	160,502	223,059	132,953 (*b*) 27,760 (*a*) 10,903	51,443
Kollegal	..	753	753	553 (*b*) 200	..
Coimbatore, North	..	8,965	8,965	50 (*b*) 8,670	245
Do. Central	460	1,151	1,611	1,426 (*b*) 60	125
Total ..	64,649	182,653	247,302	194,070	53,232
Grand total, Presidency ..	83,883	832,380	916,263	742,201	174,062

(*a*) Written off the accounts. (*b*) Used departmentally.

Account of timber, fuel, bamboos and minor produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1917–18—*cont.*

Name of district.	Balance at commencement of the year in forest and sale depots.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forest and sale depots.
MINOR PRODUCE (QUARTERS OF 28 LB.).					
Northern Circle.					
Ganjām	(e) 1,171	1,116	2,287	976	1,311
Vizagapatam	..	175	175	(b) 42 (a) 41	92
Gōdāvari, Upper	39,283	12,267	51,550	(b) 12,408 7	39,135
Do. Lower	1,249	978	2,227	(b) 2,084 143	..
Kistna	52	618	670	620	50
Kurnool, East	3,430	20,766	24,196	15,240	8,956
Do. South	..	15,234	15,234	(b) 15,234	..
Do. West	1,100	44,690	45,790	31,165	14,625
Total	46,285	95,844	142,129	77,960	64,169
Central Circle.					
Bellary	..	84	84	2	82
Anantapur	..	169,608	169,608	68,427	101,181
Guntūr	..	12,049	12,049	8,612	3,437
Cuddapah, North	167	29,417	29,584	13,096	16,488
Do. South	600	52,744	53,344	37,261	16,083
Do. West	..	96,124	96,124	72,784	23,340
Nellore	5,047	10,965	16,012	14,067	1,945
Chingleput	36	109	145	78	67
Chittoor	..	19,294	19,294	13,826	5,468
Total	5,850	390,394	396,244	228,153	168,091
Southern Circle.					
Vellore, North	130	2,001	2,131	730	1,401
Do. South	337	3,527	3,864	2,207	1,657
Do. West	164	1,617	1,781	288	1,493
Arcot, South	55	1,555	1,610	1'040	570
Salem, North	..	1,498	1,498	1,322	176
Do. South	..	29,508	29,508	14,502	15,006
Trichinopoly	8	42	50	11	39
Madura	..	223	223	186	37
Tinnevelly	5	1,169	1,174	1,107	67
Total	699	41,140	41,839	21,393	20,446
Western Circle.					
Mangalore, North	1,232	25,945	27,177	12,540 (b) 46	14,591
Do. South	14	81,964	81,978	39,277 (b) 1,434	(d) 41,267
Malabar, North	..	314	314	171	143
Do. South	1	(c)	1	1	(c)
The Nilgiris	102	380	482	414 (a) 40	28
Kollegal	..	377	377	12	365
Coimbatore, North	..	250	250	74 (b) 80	96
Do. Central	8	521	529	280	249
Do. South	11	(c)	11	(b) 11	(c)
Total	1,368	109,751	111,119	54,380	56,739
Grand total, Presidency	54,202	637,129	691,331	381,886	309,445

(a) Written off the accounts.
(b) Used departmentally.
(c) Less than one quarter.
(d) Excludes 350 canes which are given in numbers.
(e) Excludes 47 qrs. belonging to Parlakimedi Maliahs.

ANNUAL FORM NO. 79.

Forest Department, Madras Presidency.

Statement showing the value of timber and other produce at sale depots for the year 1917–18.

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.
	Northern Circle.			RS.			RS.	RS.	RS.
Ganjām	Timber	..	(a) 2,602	(b) 1,586	..	(c) 4,503	(d) 4,934	(e) 3,348	..
	Fuel	..	..	..	..	(f) 57	(g) 12	(h) 12	..
	Minor produce ..	QRS. (i) 1,171	..	(j) 600	QRS. 1,178	..	582	..	(j) 18
Vizagapatam.	Timber	..	4,151	1,540	..	25	2	..	1,538
	Fuel	..	..	..	..	2,981	150	150	..
	Minor produce ..	..	..	..	QRS. 92	..	21	21	..
Gōdāvari, Lower.	Timber	..	*	*	..	..	..	..	..
Kurnool, South.	Timber	..	6,279	4,215	..	7,114	4,699	484	..
	Fuel	..	..	..	..	15,400	644	644	..
Kurnool, West.	Fuel	..	2,176	408	..	179	39	..	369
	Central Circle.								
Nellore	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos	..	..	..	..	..	..	..	..
	Minor produce ..	MDS. 3,846	..	3,745	1,493	..	403	..	3,342
	Southern Circle.								
Vellore, North.	Timber	..	870	109	..	237	260	151	..
	Fuel	..	5	..	..	..	..	..	..
	Bamboos ..	..	..	..	186	..	1	1	..
	Minor produce ..	MDS. 130	..	65	MDS. 1,401	..	2,993	2,928	..
Vellore, South.	Timber	..	2,723	95,769	..	40	1,850	..	93,919
	Minor produce ..	..	..	..	MDS. 150	..	135	135	..
Vellore, West.	Timber ..	..	1,717	60,095	..	3,268	1,45,860	85,765	..
Arcot, South.	....	..	..	..	..	..	..	..	..
Salem, North.	Timber	..	595	4,100	..	823	2,723	..	1,377
	Bamboos ..	50	..	3	2	..	1	..	2
	Minor produce ..	..	..	..	MDS. 176	..	382	382	..
Salem, South.	Timber	..	408	2,516	..	582	3,015	499	..
	Fuel	..	20	1	..	..	..	..	1
	Minor produce ..	..	..	..	MDS. 15,006	..	5,627	5627	..
Trichinopoly.	Timber	..	1,268	6,652	..	587	4,756	..	1,896
	Fuel	..	44	5	..	2,000	125	120	..
	Bamboos ..	..	..	..	25	..	6	6	..
	Minor produce ..	..	..	..	MDS. 39	..	202	202	..
Madura ..	Timber	..	19	6	..	441	128	122	..
	Fuel	..	30	2	..	30	2	..	..
	Minor produce ..	..	..	..	MDS. 37	..	193	193	..
Tinnevelly ..	Timber	..	107	80	..	853	364	284	..
	Fuel	..	246	18	..	9,924	203	185	..
	Minor produce ..	MDS. 5	..	40	MDS. 67	..	156	116	..

* As there are no sale depots in the division the figures shown in the last year's form were incorrect and have therefore been omitted.

(a) Excludes 1,129 c. ft. belonging to Parlakimedi Maliahs.
(b) Do. Rs. 600, being value of 1,129 c, ft. belonging to Parlakimedi Maliahs.
(c) Do. 814 c. ft. belonging to the Parlakimedi Maliahs.
(d) Do. Rs. 610, being value of 814 c. ft. belonging to Parlakimedi Maliahs.
(e) Do. Rs. 10, in favour of the year.
(f) Do. 14,241 c. ft. belonging to Parlakimedi Maliahs.
(g) Do. Rs. 14,452 belonging to Parlakimedi Maliahs.
(h) Do. Rs. 352, in favour of the year.
(i) Do. 47 quarters belonging to Parlakimedi Maliahs.
(j) Do. Rs. 900, being value of 47 quarters belonging to Parlakimedi Maliahs.

Statement showing the value of timber and other produce at sale depots for the year 1917–18—*cont.*

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.
	Western Circle.			RS.			RS.	RS.	RS.
Mangalore, North.	Timber	..	3,486	2,269	..	227	128	..	2,141
	Bamboos ..	..	..	..	174	..	17	17	..
Malabar, South.	Timber	..	365	96	..	25,422	36,350	36,254	..
	Fuel	..	..	..	..	282	56	56	..
	Bamboos.. ..	..	..	..	568	..	2	2	..
The Nilgiris.	Timber	..	17,872	8,885	..	2,383	8,043	..	842
	Fuel	..	25,303	2,596	..	10,320	1,178	..	1,418
	Minor produce ..	QRS. 102	..	609	QRS. 28	..	220	..	389
Kollegal ..	Timber	..	..	..	..	768	192	192	..
	Minor produce ..	..	..	..	QRS. 288	..	576	576	..
Coimbatore, North.	Timber	..	5,283	1,21,449	..	12,061	5,29,538	4,08,089	..
	Minor produce ..	..	..	..	QRS. 96	..	15	15	..
Coimbatore, South.	Timber	..	19,335	16,491	..	5,932	7,065	..	9,426
	Minor produce ..	QRS. 11	..	24	QRS. 15	..	8	..	16
	ABSTRACT.								
Northern Circle.	Timber	..	13,032	7,341	..	11,642	9,635	2,294	..
	Fuel	..	2,176	408	..	18,617	845	437	..
	Minor produce ..	QRS. 1,171	..	600	QRS. 1,270	..	603	3	..
	Total value ..	..	..	8,349	..	..	11,083	2,734	..
Central Circle.	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos ..	..	..	..	..	..	..	..	..
	Minor produce ..	MDS. 2,213	..	1,049	MDS. 3,846	..	3,745	2,696	..
Southern Circle.	Timber	..	7,707	1,69,327	..	6,831	1,58,956	..	10,371
	Fuel	..	345	26	..	9,954	330	304	..
	Bamboos ..	50	..	3	213	..	8	5	..
	Minor produce ..	MDS. 135	..	105	MDS. 16,876	..	9,688	9,583	..
	Total value ..	..	..	1,69,461	..	..	1,68,982	..	479
Western Circle.	Timber ..	..	46,341	1,49,190	..	46,793	5,81,316	4,32,126	..
	Fuel ..	..	25,303	2,596	..	10,602	1,234	..	1,362
	Bamboos ..	..	..	..	749	..	19	19	..
	Minor produce ..	QRS. 113	..	633	QRS. 427	..	819	186	..
	Total value ..	..	..	1,52,419	..	..	5,83,388	4,30,969	..
	Grand total, Presidency.	..	..	3,31,278	..	..	7,67,198	4,35,920	..

ANNUAL FORM NO. 80.

Forest Department, Madras Presidency.

Summary of revenue of the different districts for the year 1917–18.

ANNUAL

Forest Department,

Summary of revenue of the different districts

Head of account.	Northern Circle: Direction.	Ganjām.	Vizagapatam.	Gōdāvari, Upper.	Gōdāvari, Lower.	Kistna.	Kurnool, East.	Kurnool, South.	Kurnool, West.	Golgonda and Hill Madgole.	Total.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Receipts.											
I. Timber, etc., removed by Government Agency—											
(a) Timber	..	7,893	1,272	4,408	57	1	5,636	326	10,986	..	30,579
(b) Firewood and charcoal ..	..	220	121	141	1,048	..	971	48	3,188	..	5,737
(c) Bamboos	..	41	..	..	..	..	2,797	..	5,761	..	8,599
(d) Sandalwood	..	..	..	..	..	..	..	..	..	..	..
(e) Grass and other minor produce.	60	..	3	..	..	274	8,082	..	8,480	..	16,899
II. Timber, etc., removed by consumers or purchasers—											
(a) Timber	4	19,829	3,243	2,444	18,635	3,675	2,496	22,338	878	1,533	75,075
(b) Firewood and charcoal ..	..	22,025	9,097	693	45,909	15,039	722	16,077	10,247	..	1,19,809
(c) Bamboos	..	4,216	15,317	14,959	62,079	4,908	3,963	26,835	7,465	..	1,39,742
(d) Grazing and fodder grass ..	..	11,033	4,948	10,552	13,164	10,515	* 27,832	12,703	20,675	..	1,11,422
(e) Other minor produce ..	2,402	6,706	25,100	373	51,558	17,419	17,435	21,922	90,437	..	2,33,352
(f) Rents for trees tapped ..	..	1,090	1,794	..	4,516	8,963	1,284	2,959	13,036	..	33,642
(g) Other items	..	..	..	..	..	..	..	..	..	..	..
(h) Commutation fees ..	..	..	..	..	..	..	..	..	..	..	..
III. Confiscated forest produce, drift and waif-wood.	..	273	101	1,444	2,665	77	210	462	1,225	..	6,457
IV. Forests not managed by Government—											
(a) Revenue from shared and private forests.	..	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—											
(a) Fines and forfeitures ..	..	4,296	3,958	901	6,375	1,949	6,330	4,547	3,947	450	32,753
(b) Other sources	58	2,779	929	1,546	5,786	1,063	1,084	1,537	2,777	1,266	18,825
Total, Revenue ..	2,524	80,401	65,883	37,461	2,11,792	63,883	78,842	1,09,754	1,79,102	3,249	(a)8,32,891

Budget heads.	Southern Circle: Direction.	Forest Engineer.	Vellore, North.	Vellore, South.	Vellore West.	Arcot, South.	Salem, North.	Salem, South.	Trichinopoly.	Madura.
Receipts.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber and other produce removed from the forests by Government Agency—										
(a) Timber	..	..	206	..	5	..	2,084	1	990	131
(b) Firewood and charcoal ..	..	..	260	44	20	100	94	27	121	159
(c) Bamboos	..	..	63	1	..	225	147	..	..	..
(d) Sandalwood	3,03,667	..	13	67,820	81,938	3	..	4	4	..
(e) Grass and other minor produce.	420	..	313	175	149	131	327	4,127	..	229
II. Timber and other produce removed from the forests by consumers or purchasers—										
(a) Timber	..	..	9,111	1,107	478	4,371	8,798	5,319	10,774	13,220
(b) Firewood and charcoal ..	45,716	..	17,532	9,408	3,528	2,59,020	20,564	10,071	28,416	39,882
(c) Bamboos	..	..	12,576	34,487	11,836	463	16,370	24,089	3,219	3,030
(d) Grazing and fodder grass ..	..	..	25,591	24,997	15,315	26,797	30,917	30,010	9,494	25,091
(e) Other produce	..	..	34,768	8,097	12,004	20,797	19,902	35,558	25,375	40,360
(f) Rents for trees tapped ..	..	..	8,402	1,250	682	3,097	2,289	132	..	..
(g) Other items	..	..	..	..	..	39	1,335	..	..	..
(h) Commutation fees	..	..	..	..	..	..	..	1,594	..	..
III. Confiscated drift and waif-wood ..	..	..	32	46	305	151	122	216	190	679
IV. Revenue from forest not managed by Government—										
(a) Revenue from shared and private forests.	..	..	..	..	..	..	..	..	..	..
V. Miscellaneous—										
(a) Fines and forfeitures ..	..	..	10,730	6,441	4,138	11,392	5,229	8,526	6,870	7,031
(b) Other sources	92	119	742	1,453	440	1,089	2,207	5,207	2,120	6,558
Total, Receipts ..	3,49,895	119	1,20,339	1,55,326	1,30,838	3,27,675	1,10,385	1,24,881	87,573	1,36,370

* Includes Rs. 207 erroneously credited twice.

NOTE.—Revenue under *Direction* is distributed as follows :—

I. (d) North Vellore (Rs. 3,298), South Vellore (Rs. 85,527), West Vellore (Rs. 40,086), North Salem (Rs. 63,731), South Salem (Rs. 75,132), Trichinopoly (Rs. 35,375), Tinnevelly (Rs. 518).

I. (e) Rs. 420 South Vellore, II (b) Rs. 45,716 South Arcot, V (b) Forest Engineer (Rs. 9), South Arcot (Rs. 30), South Vellore (Rs. 2), South Salem (Rs. 8), Trichinopoly (Rs. 30), Madura (Rs. 13).

(a) Excludes Rs. 38,957 belonging to Parlakimedi Maliahs.

FORM No. 80.
Madras Presidency.
for the year 1917–18.

Central Circle.										
Direction.	Bellary.	Anantapur.	Guntūr.	Cuddapah, North.	Cuddapah, South.	Cuddapah, West.	Nellore.	Chingleput.	Chittoor.	Total.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
..	234	129	43	7	16	67	3	..	59	558
..	396	4	21	192	2	28	185	552	173	1,553
..	2	..	..	..	..	..	..	5	..	7
..	6	..	..	.	..	..	..	..	..	6
..	..	25,575	* 3,997	2,865	269	18	16,250	..	8,292	57,266
..	9,441	18,049	9,362	2,450	8,427	12,335	9,670	5,665	13,828	89,227
..	20,779	3,978	31,683	8,164	12,091	5,280	40,963	16,120	6,200	1,45,258
..	1,254	684	..	6,646	4,207	3,470	125	7	6,774	23,167
..	34,485	35,388	99,850	14,864	7,630	18,612	93,213	19,766	22,884	3,46,692
..	68,527	2,31,068	23,936	7,910	8,916	17,499	† 1,18,332	7,594	‡ 75,190	5,58,972
..	§ 44,182	16,019	8,046	1,061	2,488	2,533	7,133	4,750	5,901	92,113
..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..
..	129	159	241	759	824	374	475	34	105	3,100
..	..	..	..	..	..	..	..	..	..	..
..	6,954	9,773	19,339	5,691	4,500	5,683	10,545	3,640	6,476	72,601
..	9,286	713	1,302	277	606	508	16,060	587	911	30,250
..	1,95,675	3,41,539	1,97,820	50,886	49,976	66,407	3,12,954	58,720	1,46,793	14,20,770

		Western Circle.											
Tinnevelly.	Total	Direction.	North Mangalore.	South Mangalore.	North Malabar.	South Malabar.	The Nilgiris.	Kollegal.	North Coimbatore.	Central Coimbatore.	South Coimbatore.	Working Plans Office.	Total.
RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
77	3,494	..	4,460	7,855	80,718	* 3,96,805	18 567	150	497	1,739	98,687	..	6,09,478
275	1,100	..	1,691	6,231	..	1,379	57,881	..	..	2,016	..	..	69,198
118	554	..	176	157	129	7,399	..	12	8	74	..	..	7,955
10	4,53,459	58,463	756	..	..	..	..	..	10,928	91	..	..	70,238
1	5,872	339	10,834	180	74	7	368	..	2	885	..	..	12,689
3,436	56,614	..	25,010	10,165	22,297	4,131	2,299	4,089	10,405	6,128	6,195	..	90,719
1,10,740	5,44,877	..	16,914	2,355	2	23	2,175	2,856	20,478	85,597	16,572	..	1,46,972
1,128	1,07,198	..	1,671	1,580	394	656	1,683	1,482	13,791	12,965	3,266	..	37,488
6,329	1,94,541	..	4,171	7,499	2,751	..	11,708	19,959	29,664	7,196	4,071	..	87,019
20,420	2,17,281	..	6,773	5,981	3,845	2,023	1,589	7,362	25,055	14,425	9,914	..	76,967
..	15,852	..	1,060	569	..	..	..	7	..	1	..	..	1,637
..	1,374	..	..	..	..	..	..	..	..	..	..	..	..
..	1,594	..	..	..	..	..	..	..	..	..	..	..	..
130	1,871	..	2,142	1,391	60	368	26	36	97	518	91	..	4,729
..	..	..	..	..	..	..	..	..	..	..	..	..	..
5,090	65,447	..	7,411	6,156	946	1,232	1,230	1,028	8,809	7,516	2,266	..	36,594
2,185	22,212	1,09,450	9,072	3,710	12,137	† 56,613	7,437	1,739	3,116	4,843	9,693	2	2,17,812
1,49,939	16,93,340	1,68,252	92,141	53,829	1,23,353	4,70,636	1,04,963	38,720	1,22,850	1,43,994	1,50,755	2	14,69,495

Notes for Northern Circle.

The Revenue under *Direction* is distributed as follows :—
II. (*e*) *Direction* Rs. 65. *Kurnool, South*, Rs. 2,337.
V. (*b*) ,, Rs. 56, *Kurnool, West*, Rs. 2.

* Includes Rs. 1 601–14–5 relating to Nellore district.
† Includes Rs. 602–8–0 relating to Guntur district.
‡ Includes Rs. 175 relating to Nellore district.
§ Includes Rs. 137–8–0 relating to Kurnool district.

NOTE.—The Revenue under *Direction* is distributed as follows :—
I. (*d*) *Kollegal* Rs. 22,155 ; *North Coimbatore*, Rs. 36,308 ; I (*e*) *The Nilgiris*, Rs. 339 ;
V. (*b*) *South Mangalore*, Rs. 71 ; *South Malabar*, Rs. 31 ; *The Nilgiris*, Rs. 118 ; *North Coimbatore*, Rs. 14 ; *Central Coimbatore*, Rs. 16 ; *South Coimbatore*, Rs. 1,09,060 ; and *Direction*, Rs. 140.
* Includes Rs. 17,355 appertaining to *South Coimbatore*.
† Includes Rs. 22,450 appertaining to *North Malabar* ; Rs. 17,750 to *The Nilgiris* and Rs. 9,850 to *South Coimbatore*.

Summary of expenditure of the different districts for the forest year 1917–18.

Head of account.	Direction.	Ganjām.	Vizagapatam.	Gōdāvari, Upper.	Gōdāvari, Lower.	Kistna.	Kurnool, East.	Kurnool, South.	Kurnool West.	Golgonda and Hill Madgole.	Total.
Northern Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Refunds and Drawbacks—Forest Refunds ..	..	209	153	44	976	99	173	41	659	..	2,354
A. Conservancy and Works.											
I. Timber, etc., removed by Government Agency—											
(a) Timber	..	4,689	199	1,550	..	..	1,363	1,506	2,268	..	11,575
(b) Firewood and charcoal	..	5	401	159	41	..	491	8	652	..	1,757
(c) Bamboos	..	28	..	..	.	..	1,692	..	4,090	..	5,810
(d) Sandalwood	..	..	..	..	..	..	..	..	..	..	..
(e) Grass and other minor produce ..	3	511	..	1,314	25	..	6,664	780	13,761	..	23,058
II. Timber, etc., removed by consumers, etc. ..	..	4,690	3,729	939	12,129	1,530	5,769	6,154	9,865	47	44,852
III. Confiscated forest produce, drift and waif-wood.	..	182	..	15	1,463	2	18	16	31	..	1,727
IV. Forests not managed by Government ..	..	..	..	..	..	..	..	..	..	..	..
V. Rent of leased forests, etc.	..	..	952	..	..	..	..	..	..	..	952
VI. Live-stock, stores, tools and plant	..	..	..	..	..	..	..	..	..	..	
(a) Purchase of cattle	..	..	..	..	..	..	99	..	..	..	99
(b) Feed and keep of cattle	..	1,230	984	1,544	..	..	..	— 1	3,055	..	6,812
(c) Stores, tools and plant	87	794	344	1,424	5,386	895	661	188	326	100	10,205
VII. Communications and buildings—											
(a) Roads and bridges	..	2,972	306	96	1,574	1,148	8,088	3,688	4,098	..	21,970
(b) Buildings	..	4,331	1,807	2,131	3,359	310	4,963	3,738	2,580	..	23,219
(c) Other works	..	440	..	..	776	30	1,020	321	834	..	3,421
VIII. Organization, improvement and extension of forests—											
(a) Demarcation	..	— 37	— 31	1,068	282	163	311	244	626	..	2,626
(b) Cost of forest settlements, compensation for land and rights.	..	..	..	..	..	..	..	..	..	..	..
(c) Surveys—											
(1) Local surveys	..	..	30	279	1,646	894	1,071	843	..	..	4,763
(2) Survey of India	..	..	..	..	..	..	..	.	..	..	..
(d) Working plans	..	1,545	..	..	..	..	150	..	..	..	1,695
(e) Sowing and planting	295	133	42	7	8	468	37	596	3,454	..	5,040
(f) Protection from fire	..	5,562	1,262	7,153	5,447	1,434	9,234	11,622	8,337	..	50,051
(g) Other works	..	8	127	12	427	4,293	1,053	179	3,745	..	9,844
IX. Miscellaneous—											
(a) Law charges	..	..	..	..	..	..	..	2	4	..	6
(b) Grain compensation allowance	.	47	..	51	447	36	..	..	..	..	581
(c) Other charges	384	933	134	1	233	71	277	91	1,794	..	3,918
Total, A. Conservancy and Works ..	769	28,063	10,286	17,743	33,243	11,274	42,961	29,975	59,520	147	(a) 2,33,981
B. Establishment.											
I. Salaries—											
(a) Conservators	18,000	..	..	..	..	..	..	..	..	.	18,000
(b) Superior officers	2,511	11,305	4,149	8,240	8,810	3,748	6, 52	8,023	12,894	1,980	67,812
(c) Subordinate establishment, etc.	1,010	25,016	8,109	16,237	14,986	8,585	16,824	17,945	19,741	140	1,28,593
(d) Office establishment	9,331	8,200	3,849	7,150	6,773	3,631	5,348	6,475	8,039	442	59,238
(e) Deputation, etc., allowances	..	1,905	..	1,285	1,555	954	1,196	1,495	1,727	..	10,117
II. Travelling allowances	3,216	11,533	4,284	7,334	8,455	4,903	9,274	8,038	11,386	1,995	70,418
III. Contingencies—											
(a) Contract items—											
(1) Service postage and telegram charges.	701	1,186	742	661	878	962	899	687	1,238	10	7,964
(2) Other contract items	1,163	1,466	945	1,021	1,893	1,015	1,548	1,201	1,272	..	11,524
(b) Non-Contract items—											
(1) Rents, rates and taxes	133	92	32	121	291	172	212	58	142	20	1,273
(2) Sundries	3,663	259	— 3	— 19	235	46	457	635	726	454	6,453
Total, B. Establishment ..	39,728	60,962	22,107	42,030	43,876	24,016	41,910	44,557	57,165	5,041	(b) 3,81,392
Grand Total of Expenditure A and B ..	40,497	89,025	32,393	59,773	77,119	35,290	84,871	74,532	1,16,685	5,188	6,15,373

(a) Excludes Rs. 16,901 spent on A Conservancy and Works in Parlakimedi Maliahs.
(b) Excludes Rs. 23,123 spent on B Establishment in Parlakimedi Maliahs.

Summary of expenditure of the different districts for the Forest year 1917–18.

Budget heads.	Direction.	Bellary.	Anantapur.	Guntur.	Cuddapah, North.	Cuddapah, South.	Cuddapah, West.	Nellore.	Chingleput.	Chittoor.	Total.
Central Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Refunds and Drawbacks	..	999	789	254	309	103	258	3,779	668	260	7,419
A. Conservancy and Works.											
I. Timber and other produce removed from the forests by Government Agency—											
(a) Timber	..	..	..	57	..	49	..	..	..	..	106
(b) Firewood and charcoal	..	..	..	..	..	..	..	..	330	..	330
(c) Bamboos	..	..	..	..	..	..	..	..	..	..	..
(d) Sandalwood	..	..	..	..	..	..	..	..	..	..	..
(e) Grass and other minor produce ..	27,754	..	25,111	1,815	6,994	17,116	31,040	3,518	..	6,694	1,20,042
II. Timber and other produce removed from the forests by consumers or purchasers.	..	2,302	1,670	3,552	5,670	4,137	3,785	1,696	2,515	2,773	28,100
III. Confiscated drift and waif-wood	..	..	5	3	40	12	26	..	..	4	90
V. Rent of leased forests and payments to shareholders in forests managed by Government.	..	8,000	..	..	..	..	..	..	..	..	8,000
VI. Live-stock, stores, tools and plant—											
(a) Purchase of cattle	..	..	..	..	..	..	..	52	..	..	52
(b) Feed and keep of cattle ..	..	..	..	..	..	..	..	..	..	..	..
(c) Stores, tools and plant ..	— 267	282	85	217	1,536	250	185	800	414	508	4,010
VII. Communications and buildings—											
(a) Roads and bridges	..	162	89	940	1,032	5,870	4,703	399	1,099	2,805	17,099
(b) Buildings	..	990	1,518	1,456	2,954	4,609	3,899	2,610	2,018	5,707	25,761
(c) Other works	..	..	..	105	304	34	..	195	21	228	887
VIII. Demarcation, improvement and extension of forests—											
(a) Demarcation	..	1,502	231	277	1,005	260	56	498	117	196	4,142
(b) Cost of forest settlement; compensation for land and rights.	..	..	389	..	..	52	470	6,727	..	..	7,638
(c) Surveys .. Local	423	..	..	..	..	..	..	294	440	..	1,157
(c) Surveys .. India	..	..	..	..	..	..	..	5,986	..	..	5,986
(d) Working plans	..	..	..	..	..	..	12	..	..	..	12
(e) Sowing and planting	.	176	203	136	37	215	117	1,659	70	1,154	3,767
(f) Protection from fire	..	1,754	4,971	..	6,313	2,682	4,232	1,165	947	1,271	23,335
(g) Other works	.	5,352	6,387	8,213	2,067	4,979	6,294	3,967	7,970	12,675	57,904
IX. Miscellaneous—											
(a) Law charges	..	..	..	..	224	42	33	895	..	6	1,200
(b) Other charges	..	28	— 4	35	..	35	24	90	48	..	256
Grain compensation allowance	2,357	5	.	15	115	151	15	590	66	86	3,400
Total, A. Conservancy and Works ..	30,267	20,553	40,655	16,821	28,291	40,493	54,891	31,141	16,055	34,107	3,13,274
B. Establishments.											
I. Salaries—											
(a) Conservators	23,383	..	..	..	..	..	..	..	..	..	23,383
(b) Superior officers	8,999	7,411	7,475	7,475	4,430	6,018	3,447	13,802	4,188	11,842	75,087
(c) Subordinate Forest and Depot establishments.	— 300	14,979	14,048	12,511	12,269	13,567	15,080	18,353	8,337	18,354	1,27,198
(d) Office establishments, permanent	8,603	5,399	4,852	4,686	4,489	4,627	4,215	9,990	2,618	5,554	54,933
Do. temporary	137	144	341	822	406	527	517	811	528	260	4,493
II. Travelling allowances	5,898	6,296	7,003	6,344	4,449	6,645	7,444	9,066	5,102	9,792	68,039
III. Contingencies—											
(a) Contract items—											
(1) Service postage and telegram charges.	567	678	668	839	459	436	577	1,089	485	913	6,711
(2) Other contract contingencies ..	715	1,155	1,164	1,251	1,371	969	806	1,353	536	1,201	10,521
(b) Non-contract items—											
(1) Rents, rates and taxes	..	458	132	66	72	78	105	32	347	131	1,421
(2) Sundries	3,819	144	146	154	222	182	82	132	42	171	5,094
Grain compensation allowance	246	1,566	1,118	1,529	1,557	1,582	1,685	1,522	807	762	12,374
Total, B. Establishments ..	51,967	38,230	36,947	35,677	29,724	34,631	33,958	56,150	22,990	48,980	3,89,254

Summary of expenditure of the different districts for the Forest year 1917-18.

Budget heads.	Direction.	Forest Engineer.	Vellore, North.	Vellore, South.	Vellore, West.	Arcot, South.	Salem, North.	Salem, South.	Trichinopoly.	Madura.	Tinnevelly.	Working plans.	Total.
Southern Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Refunds and Drawbacks	..	..	74	3,485	3,269	1,774	153	441	947	184	903	..	11,230
A. Conservancy and Works.													
I. Timber and other produce removed from the forests by Government Agency—													
(a) Timber	..	..	..	25	..	..	701	..	425	..	75	..	1,226
(b) Firewood and charcoal ..	..	..	10	..	..	..	56	..	..	..	44	..	110
(c) Bamboos	..	..	..	..	..	45	144	..	..	..	32	..	221
(d) Sandalwood	..	..	41	1,899	4,412	17	6,314	3,717	2,643	..	118	..	19,161
(e) Grass and other minor produce.	..	..	568	956	413	895	883	4,942	..	123	319	..	9,099
II. Timber and other produce removed from the forests by consumers or purchasers.	..	..	1,325	1,689	981	1,852	1,386	3,480	1,153	3,141	3,249	..	18,256
III. Confiscated, drift and waif-wood.	..	..	..	..	7	..	..	..	..	6	..	..	13
V. Rent of leased forests and payments to share holders in forests managed by Government.	..	..	..	..	..	..	29	..	..	..	..	..	29
VI. Live-stock, stores, tools and plant—													
(a) Purchase of cattle ..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Feed and keep of cattle ..	..	..	..	..	..	..	..	..	..	..	..	..	..
(c) Stores, tools and plants ..	1,238	209	492	1,592	2,422	310	2,187	239	141	189	289	132	9,440
VII. Communications and buildings—													
(a) Roads and bridges	..	49,858	2,703	352	236	128	2,172	810	3,534	12,147	4,990	..	76,930
(b) Buildings	..	..	3,828	3,827	4,406	852	4,909	4,322	1,772	14,527	3,528	..	41,971
(c) Other works	..	..	29	612	840	125	590	264	63	150	44	..	2,717
VIII. Demarcation, improvement and extension of forests—													
(a) Demarcation	..	..	533	107	15	166	212	419	..	3,611	224	..	5,287
(b) Cost of forest settlement; compensation for land and rights.	..	..	294	..	..	..	..	43	297	997	..	..	1,631
(c) Surveys .. { Local ..	..	..	427	..	207	364	345	708	514	..	..	..	2,565
(c) Surveys .. { India ..	..	..	..	..	..	..	..	..	..	..	..	..	..
(d) Working plans	2,146	..	..	..	..	16	8	..	..	..	..	410	2,580
(e) Sowing and planting ..	..	..	2,875	326	288	24	1,251	1,013	76	1,209	1,303	..	8,365
(f) Protection from fire ..	..	..	840	769	858	318	2,580	2,405	315	5,221	4,935	..	18,241
(g) Other works	..	..	5,842	7,922	6,278	4,314	6,633	4,569	2,942	10,733	5,629	..	54,862
IX. Miscellaneous—													
(a) Law charges	..	..	..	..	..	37	..	64	2	..	..	..	103
(b) Grain compensation allowance.	..	..	79	23	22	36	4	4	24	119	..	..	311
(c) Other works	1,077	..	947	241	233	181	82	57	– 133	84	138	..	2,907
Total, A. Conservancy and Works ..	4,461	50,067	20,833	20,340	21,618	9,680	30,486	27,056	13,768	52,257	24,917	542	2,76,025
B. Establishments.													
I. Salaries—													
(a) Conservators	22,800	..	..	..	..	..	..	..	..	..	..	..	22,800
(b) Superior officers	1,019	7,875	10,906	6,650	5,200	5,703	15,698	8,842	6,735	18,387	12,353	5,624	1,04,992
(c) Subordinate Forest and Depot establishments.	1,027	8,656	10,625	11,495	8,605	8,743	18 953	14,898	10,742	20,281	13,759	731	1,28,515
(d) Office establishments ..	9,333	4,348	4,412	4,764	3,900	4,092	6,662	6,564	5,280	6,152	6,116	763	62,386
(e) Grain compensation allowance.	176	10	953	816	651	851	223	185	1,029	2,146	1,778	92	8,910
(f) Exchange compensation allowance.	..	..	..	..	..	..	..	..	..	..	..	..	..
II. Travelling allowances	4,091	4,014	6,729	5,608	4,715	4,929	7,378	6,412	5,277	10,772	6,725	1,797	68,447
III. Contingencies—													
(a) Contract items—													
1. Service postage and telegrams.	1,218	..	845	843	535	803	1,255	752	939	1,061	671	44	8,966
2. Other contract contingencies.	1,039	..	827	1,312	624	968	682	1,456	892	1,424	1,111	518	10,853
(b) Non-contract items—													
1. Rents, rates and taxes ..		537	98	114	107	18	38	72	20	352	218		1,574
2. Sundries	3,748	1,342	117	417	407	23	318	123	4	89	60	9	6,657
Total, B. Establishments ..	44,451	26,782	35,512	32,019	24,744	26,130	51,207	39,304	30,918	60,664	42,791	9,578	4,24,100
Grand Total of Expenditure, A and B.	48,912	76,849	56,345	52,359	46,362	35,810	81,693	66,360	44,686	1,12,921	67,708	10,120	7,00,125

Summary of receipts and expenditure during 1917-18 for each circle and for the Presidency compiled in the Board's office from the Conservators' statements.

Budget heads.	Northern Circle.	Central Circle.	Southern Circle.	Western Circle.	Grand total, Presidency. 1917-18.	Grand total, Presidency. 1916-17.
RECEIPTS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Timber and other produce removed from the forests by Government agency—						
(a) Timber	30,579	558	3,494	6,09,478	6,44,109	3,76,665
(b) Firewood and charcoal ..	5,737	1,553	1,100	69,198	77,588	63,812
(c) Bamboos	8,599	7	554	7,955	17,115	6,213
(d) Sandalwood	..	6	4,53,459	70,238	5,23,703	4,88,175
(e) Grass and other minor produce.	16,899	57,266	5,872	12,689	92,726	25,109
Total, I ..	61,814	59,390	4,64,479	7,69,558	13,55,241	9,59,974
II. Timber and other produce removed from the forests by consumers, etc.—						
(a) Timber	75,075	89,227	56,614	90,719	3,11,635	3,05,016
(b) Firewood and charcoal ..	1,19,809	1,45,258	5,44,877	1,46,972	9,56,916	8,51,038
(c) Bamboos	1,39,742	23,167	1,07,198	37,488	3,07,595	3,12,838
(d) Grazing and fodder grass..	1,11,422	3,46,692	1,94,541	87,019	7,39,674	7,03,869
(e) Other produce	2,33,352	5,58,972	2,17,281	76,967	10,86,572	9,39,983
(f) Tree-owners' fees	33,642	92,113	15,852	1,637	1,43,244	1,36,569
(g) Other items	..	..	1,374	..	1,374	1,986
(h) Commutation fees	..	..	1,594	..	1,594	808
Total, II ..	7,13,042	12,55,429	11,39,331	4,40,802	35,48,604	32,52,107
III. Confiscated drift and waifwood ..	6,457	3,100	1,871	4,729	16,157	15,826
IV. Revenue from forests not managed by Government.	..	..	..	..	..	..
V. Miscellaneous—						
(a) Fines and forfeitures ..	32,753	72,601	65,447	36,594	2,07,395	2,08,522
(b) Other sources	18,825	30,250	22,212	2,17,812	2,89,099	3,42,587
Total, V ..	51,578	1,02,851	87,659	2,54,406	4,96,494	5,51,109
Grand Total, Receipts ..	8,32,891	14,20,770	16,93,340	14,69,495	54,16,496	47,79,016
EXPENDITURE.						
1. Refunds and Drawbacks	2,354	7,419	11,230	5,792	26,795	44,404
A. Conservancy and Works.						
I. Timber and other produce removed from the forests by Government agency—						
(a) Timber	11,575	106	1,226	57,938	70,845	60,243
(b) Firewood and charcoal ..	1,757	330	110	48,482	50,679	38,219
(c) Bamboos	5,810	..	221	9,730	15,761	4,963
(d) Sandalwood	..	..	19,161	20,052	39,213	28,773
(e) Grass and other minor produce.	23,058	1,20,042	9,099	30,604	1,82,803	14,440
Total, A-I ..	42,200	1,20,478	29,817	1,66,806	3,59,301	1,46,638
II. Timber and other produce removed from the forests by consumers or purchasers.	44,852	28,100	18,256	17,422	1,08,630	1,09,739
III. Confiscated drift and waifwood ..	1,727	90	13	160	1,990	2,204
V. Rent of leased forests and payments to shareholders in forests managed by Government.	952	8,000	29	9,244	18,225	21,340
VI. Live-stock, stores, tools and plant—						
(a) Purchase of cattle ..	99	52	..	12,273	12,424	7,893
(b) Feed and keep of cattle ..	6,812	..	..	73,823	80,635	73,599
(c) Stores, tools and plant ..	10,205	4,010	9,440	8,835	32,490	28,507
Total, A-VI ..	17,116	4,062	9,440	94,931	1,25,549	1,09,999
VII. Communications and buildings—						
(a) Roads and bridges ..	21,970	17,099	76,930	38,777	1,54,776	1,61,756
(b) Buildings	23,219	25,761	41,971	24,976	1,15,927	1,02,388
(c) Other works	3,421	887	2,717	1,489	8,514	7,876
Total, A-VII ..	48,610	43,747	1,21,618	65,242	2,79,217	2,72,020

Summary of expenditure of the different districts for the Forest year 1917–18.

Budget heads.	Direction.	North Mangalore.	South Mangalore.	North Malabar.	South Malabar.	The Nilgiris.	Kollegal.	North Coimbatore.	Central Coimbatore.	South Coimbatore.	Working-plans office.	Forest Engineer.	Total.
Western Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
I. Refunds and Drawbacks ..	..	347	1,378	371	75	473	82	714	239	2,113	..	..	5,792
A. Conservancy and Works.													
I. Timber and other produce removed from the forests by Government Agency—													
(a) Timber	..	1,733	1,610	9,551	24,606	5,424	233	106	620	14,055	..	..	57,938
(b) Firewood and charcoal.	..	1,486	5,706	..	141	40,287	..	..	862	..	..	..	48,482
(c) Bamboos	..	137	28	..	9,531	..	10	24	..	..	..	..	9,730
(d) Sandalwood	..	86	3	..	..	105	4,286	15,550	22	..	..	..	20,052
(e) Grass and other minor produce.	..	10,351	19,117	..	353	386	72	28	271	26	..	..	30,604
II. Timber and other produce removed from the forests by consumers or purchasers.	..	3,515	2,382	614	1,221	133	1,858	2,640	2,993	2,066	..	..	17,422
III. Confiscated, drift and waif-wood.	..	82	53	..	3	2	..	1	1	18	..	..	160
V. Rent of leased forests and payment to shareholders in forests managed by Government.	..	..	..	33	2,211	4,500	..	..	..	2,500	..	..	9,244
VI. Live-stock, stores, tools and plant—													
(a) Purchase of cattle ..	..	..	1,253	2,524	1,161	1,312	..	..	455	5,568	..	..	12,273
(b) Feed and keep of cattle.	66	..	2,412	9,125	22,691	15,316	..	..	704	23,509	..	..	73,823
(c) Stores, tools and plant.	572	115	661	1,162	1,503	1,139	158	145	442	2,938	..	..	8,835
VII. Communications and buildings—													
(a) Roads and bridges ..	..	589	332	3,113	4,264	11,792	2,384	8,566	1,954	5,783	..	..	38,777
(b) Buildings	..	1,290	2,389	2,833	2,085	1,413	2,298	3,720	6,015	2,933	..	..	* 24,976
(c) Other works	— 3	55	325	21	411	8	99	442	14	117	..	..	* 1,489
VIII. Demarcation, improvement and extension of forests—													
(a) Demarcation ..	..	473	25	1,583	1 203	8,168	161	346	542	31	..	..	12,532
(b) Cost of Forest Settlement; compensation for land and rights.	..	..	..	..	..	3,178	..	7,660	..	..	..	..	10,838
(c) Surveys .. Local ..	..	..	..	..	700	2,023	651	11	986	2,048	..	..	6,419
(c) Surveys .. India ..	..	..	..	..	2,009	..	..	..	..	..	..	..	2,009
(d) Working-plans ..	..	..	..	..	1,176	1,118	..	..	..	..	2,742	..	5,036
(e) Sowing and planting ..	597	5	29	1,874	12,203	764	727	348	762	429	..	..	17,738
(f) Protection from fire ..	..	1,783	2,710	6,231	3,604	3,764	2,699	2,124	4,092	2,522	..	..	29,529
(g) Other works	..	286	500	2,269	1,777	1,569	3,156	6,254	12,566	3,193	..	..	31,570
IX. Miscellaneous—													
(a) Law charges	..	..	11	..	14	..	..	..	..	..	..	..	25
(b) Grain compensation allowance.	..	..	..	34	221	92	19	25	27	153	..	..	571
(c) Other charges	538	134	277	5,979	235	5,489	16	129	371	994	..	..	14,162
Total ..	1,770	22,120	39,823	46,946	93,323	1,07,982	18,827	48,119	33,699	68,883	2,742	..	4,84,234
B. Establishments.													
I. Salaries—													
(a) Conservators	20,400	..	..	..	..	..	..	..	..	..	..	..	20,400
(b) Superior officers	3,538	4,173	6,192	5,127	12,571	16,994	3,355	18,206	7,050	16,727	3,000	1,125	98,058
(c) Subordinate Forest and Depot establishments.	2,037	7,966	7,425	15,682	8,010	20,499	9,005	12,382	11,192	10,344	2,427	1,380	1,08,349
(d) Office establishments ..	9,142	4,062	3,963	7,023	4,757	6,343	3,783	5,738	4,212	7,110	1,970	646	58,749
(e) Grain compensation allowance	211	1,140	1,006	1,323	899	1,384	934	1,334	1,153	800	82	10	10,276
II. Travelling allowances	3,884	5,518	5,100	8,133	7,533	9,235	4,080	6,888	6,507	6,156	1,871	618	65,523
III. Contingencies—													
(a) Contract items—													
(1) Service postage and telegram charges.	575	875	966	707	542	670	335	936	451	773	83	..	6,913
(2) Other contract contingencies.	1,021	1,254	825	2,119	1,093	1,248	1,211	1,281	931	547	860	..	12,390
(b) Non-contract items—													
(1) Rents, rates and taxes.	122	16	..	..	38	192	621	29	84	837	..	75	2,014
(2) Sundries	5,487	63	114	206	709	417	215	294	238	— 185	12	299	7,869
Total ..	46,417	25,067	25,591	40,320	36,152	56,982	23,539	47,088	31,818	43,109	10,305	4,153	3,90,541

* Rupees 8 was wrongly debited to A-VII (c) instead of to A-VII (b) in Kollegal.

Summary of receipts and expenditure during 1917–18 for each circle and for the Presidency compiled in the Board's office from the Conservators' statements—*cont.*

Budget heads.	Northern Circle.	Central Circle.	Southern Circle.	Western Circle.	Grand total, Presidency 1917–18.	Grand total, Presidency 1916–17.
EXPENDITURE—*cont.*	RS.	RS.	RS.	RS.	RS.	RS.
A. Conservancy and Works—cont.						
VIII. Demarcation, etc.—						
(*a*) Demarcation	2,626	4,142	5,287	12,532	24,587	26,560
(*b*) Cost of forest settlement; compensation for land and rights.	..	7,638	1,631	10,838	20,107	92,229
(*c*) Surveys. (1) Local ..	4,763	1,157	2,565	6,419	14,904	18,463
(*c*) Surveys. (2) India ..	..	5,986	..	2,009	7,995	17,710
(*d*) Working-plans	1,695	12	2,580	5,036	9,323	7,092
(*e*) Sowing and planting ..	5,040	3,767	8,365	17,738	34,910	30,712
(*f*) Protection from fire ..	50,051	23,335	18,241	29,529	1,21,156	1,21,181
(*g*) Other works	9,844	57,904	54,862	31,570	1,54,180	1,51,756
Total, A-VIII ..	74,019	1,03,941	93,531	1,15,671	3,87,162	4,65,703
IX. Miscellaneous—						
(*a*) Law charges	6	1,200	103	25	1,334	2,779
(*b*) Grain compensation allowance.	581	256	311	571	1,719	1,560
(*c*) Other charges	3,918	3,400	2,907	14,162	24,387	12,340
Total, A-IX ..	4,505	4,856	3,321	14,758	27,440	16,679
Total, A. Conservancy and Works, including Refunds and Drawbacks.	2,36,335	3,20,693	2,87,255	4,90,026	13,34,309	11,88,726
B. Establishments.						
I. Salaries—						
(*a*) Conservators	18,000	23,383	22,800	20,400	84,583	81,560
(*b*) Superior officers	67,812	75,087	1,04,992	98,058	3,45,949	3,67,156
(*c*) Subordinate establishments, etc.	1,28,593	1,27,198	1,28,515	1,08,349	4,92,655	4,73,496
(*d*) Office establishments ..	59,238	59,426	62,386	58,749	2,39,799	2,32,786
(*e*) Grain compensation allowance.	10,117	12,374	8,910	10,276	41,677	34,817
Total, B-I ..	2,83,760	2,97,468	3,27,603	2,95,832	12,04,663	11,89,815
II. Travelling allowances	70,418	68,039	68,447	65,523	2,72,427	2,55,302
III. Contingencies—						
(*a*) Contract items—						
(1) Service postage and telegram charges.	7,964	6,711	8,966	6,913	30,554	33,992
(2) Other contract items.	11,524	10,521	10,853	12,390	45,288	46,746
(*b*) Non-contract items—						
(1) Rents, rates and taxes.	1,273	1,421	1,574	2,014	6,282	6,362
(2) Sundries	6,453	5,094	6,657	7,869	26,073	63,431
Total, B-III ..	27,214	23,747	28,050	29,186	1,08,197	1,50,531
Total, B. Establishments ..	3,81,392	3,89,254	4,24,100	3,90,541	15,85,287	15,95,648
Grand Total, Expenditure including Refunds and Drawbacks.	6,17,727	7,09,947	7,11,355	8,80,567	29,19,596	27,84,374
Surplus	2,15,164	7,10,823	9,81,985	5,88,928	24,96,900	19,94,642
Total ..	8,32,891	14,20,770	16,93,340	14,69,495	54,16,496	47,79,016

Annual Form No. 81.

Forest Department, Madras Presidency.

Outstandings and liabilities on account of contractors and disbursers for the Forest year 1917–18.

District.	Department debtor. At commencement of year.	Department debtor. Recoveries in cash and value of supplies and work done during the year.	Department debtor. At close of year.	Department creditor. At commencement of year.	Department creditor. Payments made during year.	Department creditor. At close of year.	Balance due. To department (outstandings).	Balance due. By department (liabilities).
		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	
Northern Circle.								
Direction	..	1,328 6 10	1,328 6 10	166 12 2	1,186 2 2	1,352 14 4	24 7 6	..
Ganjām	..	(a)75,652 10 1	(a) 75,652 10 1	(b)2,746 2 10	(c) 77,802 12 9	(d) 80,548 15 7	(e) 4,896 5 6	..
Vizagapatam	..	23,138 13 1	23,138 13 1	506 11 11	22,995 9 9	23,502 5 8	363 8 7	..
Gōdāvari, Upper	..	35,060 15 10	35,060 15 10	1,068 9 4	34,867 3 5	35,935 12 9	874 12 11	..
Do. Lower	..	64,296 9 0	64,296 9 0	1,458 14 1	63,991 1 8	65,449 15 9	1,153 6 9	..
Kistna	..	28,270 5 10	28,270 5 10	719 7 8	28,841 1 8	29,560 9 4	1,290 3 6	..
Kurnool, East	..	98,069 7 2	98,069 7 2	2,123 4 5	98,645 7 1	1,00,768 11 6	2,699 4 4	..
Do. South	..	66,368 4 5	66,368 4 5	1,593 3 3	67,193 2 2	68,786 5 5	2,418 1 0	..
Do. West	..	97,910 2 11	97,910 2 11	942 5 7	99,997 2 5	1,00,939 8 0	3,029 5 1	..
Golgonda Agency and Hill Madgole.	..	244 6 0	244 6 0	..	253 0 0	253 0 0	8 10 0	..
Total ..	..	4,90,340 1 2	4,90,340 1 2	11,325 7 3	4,95,772 11 1	5,07,098 2 4	16,758 1 2	..
Central Circle.								
Direction, Central Circle ..	..	2,475 12 2	2,475 12 2	68 2 5	2,437 0 11	2,505 3 4	29 7 2	..
Guntūr	..	37,497 2 7	37,497 2 7	296 15 1	37,838 0 1	38,134 15 2	637 12 7	..
Nellore	..	50,981 2 9	50,981 2 9	813 5 11	51,796 13 11	52,610 3 10	1,629 1 1	..
Cuddapah, North	..	56,440 8 9	56,440 8 9	1,036 11 9	56,091 3 0	57,127 14 9	687 6 0	..
Do. South	..	79,326 15 9	79,326 15 9	910 8 4	79,475 10 7	80,386 2 11	1,059 3 2	..
Do. West	..	1,20,769 13 1	1,20,769 13 1	1,219 15 2	1,21,420 1 5	1,22,640 0 7	1,870 3 6	..
Bellary	..	37,624 5 1	37,624 5 1	955 6 9	38,278 13 9	39,234 4 6	1,609 15 5	..
Anantapur	..	72,990 7 6	72,990 7 6	915 9 10	72,995 2 1	73,910 11 11	920 4 5	..
Chittoor	..	70,912 12 7	70,912 12 7	686 14 4	70,789 9 3	71,476 7 7	563 11 0	..
Chingleput	..	26,675 3 8	26,675 3 8	504 6 2	26,757 12 3	27,262 2 5	586 14 9	..
Total ..	..	5,55,694 3 11	5,55,694 3 11	7,407 15 9	5,57,880 3 3	5,65,288 3 0	9,593 15 1	..
Southern Circle.								
Direction, Southern Circle ..	..	2,259 9 2	2,259 9 2	62 3 5	2,233 15 10	2,296 3 3	36 10 1	..
Vellore, North	..	52,796 12 8	52,796 12 8	887 11 5	53,191 14 2	54,079 9 7	1,282 12 11	..
Do. South	..	38,242 10 5	38,242 10 5	715 12 7	38,797 12 4	39,513 8 11	1,270 14 6	..
Do. West	..	38,275 2 1	38,275 2 1	1,892 10 6	38,110 14 4	40,003 8 10	1,728 6 9	..
Arcot, South cum Tanjore ..	..	26,474 13 11	26,474 13 11	194 15 6	26,890 1 3	27,085 0 9	610 2 10	..
Salem, North	..	72,351 13 0	72,351 13 0	603 8 6	73,549 14 11	74,153 7 5	1,801 10 5	..
Do. South	..	59,392 10 3	59,392 10 3	1,466 2 8	59,681 6 0	61,147 8 8	1,754 14 5	..
Trichinopoly	..	35,841 4 11	35,841 4 11	683 14 10	36,085 10 4	36,769 9 2	928 4 3	..
Madura	..	109,956 5 0	1,09,956 5 0	1,110 4 8	1,11,492 12 9	1,12,603 1 5	2,646 12 5	..
Tinnevelly cum Rāmnad ..	..	55,395 1 7	55,395 1 7	1,318 13 5	56,741 9 2	58,060 6 7	2,665 5 0	..
Forest Engineer	..	6,021 5 10	6,021 5 10	275 0 0	6,396 8 1	6,671 8 1	650 2 3	..
Working Plans office ..	..	2,090 6 3	2,090 6 3	..	2,657 3 4	2,657 3 4	566 13 1	..
Total ..	..	4,99,097 15 1	4,99,097 15 1	9,211 1 6	5,05,829 10 6	5,15,040 12 0	15,942 12 11	..
Western Circle.								
Direction, Western Circle ..	..	972 2 11	972 2 11	1 0 8	1,009 1 2	1,010 1 10	37 14 11	..
The Nilgiris	..	1,38,044 13 5	1,38,044 13 5	4,272 1 1	1,38,314 14 4	1,42,586 15 5	4,542 2 0	..
North Coimbatore	..	80,011 9 7	80,011 9 7	1,331 14 8	81,092 11 9	82,424 10 5	2,413 0 10	..
Central do.	..	61,460 7 9	61,460 7 9	1,799 14 0	63,610 12 3	65,410 10 3	3,950 2 6	..
South do.	..	86,808 11 3	86,808 11 3	4,089 7 0	85,908 6 11	89,997 13 11	3,189 2 8	..
Kollegal	..	41,054 4 6	41,054 4 6	1,152 14 6	41,412 8 2	42,565 6 8	1,511 2 2	..
North Malabar	..	76,834 10 7	76,834 10 7	1,724 3 2	78,338 7 5	80,062 10 7	3,228 0 0	..
South do.	..	1,05,629 3 11	1,05,629 3 11	4,500 13 7	1,04,087 1 10	1,08,587 15 5	2,958 11 6	..
North Mangalore	..	42,166 11 10	42,166 11 10	536 14 9	42,694 12 1	43,231 10 10	1.064 15 0	..
South do.	..	57,220 14 11	57,220 14 11	1,558 12 4	57,989 13 0	59,548 9 4	2,327 10 5	..
Working Plans office	..	9,938 5 4	9,938 5 4	771 11 2	9,395 12 0	10,167 7 2	229 1 10	..
Total ..	..	7,00,142 0 0	7,00,142 0 0	21,739 10 11	7,03,854 4 11	7,25,593 15 10	25,451 15 10	..
Grand total, Presidency. ..	..	22,45,274 4 2	22,45,274 4 2	49,684 3 5	22,63,336 13 9	23,13,021 1 2	67,746 13 0	..

(a) Excludes Rs. 18,950 belonging to Parlakimedi Maliahs.
(b) Do. 494 do. do.
(c) Do. 18,939 do. do.
(d) Do. 19,433 do. do.
(e) Do. 483 do do.

Accountant-General's Office,
Madras, 3rd *September* 1918.

C. C. Swetenham,
Deputy Accountant-General.

ANNUAL FORM No. 82.

Forest Department, Madras Presidency.

Revenue received and outstandings on account of revenue during 1917-18.

District.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the department at end of year.
		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Northern Circle.						
Direction	Timber and other forest produce.	..	185 0 0	185 0 0	185 0 0	..
Ganjām	Do.	8,073 13 0 (a) — 1 0 0	(e) 98,294 12 5	(e) 1,06,367 9 5	(e) 80,401 0 0 (b) 4 12 0	25,961 13 5
Vizagapatam	Do.	21,989 13 8	56,208 6 0	78,198 3 8	65,883 0 0	12,315 3 8
Golgonda and Hill Madgole.	Do.	..	3,249 0 0	3,249 0 0	3,249 0 0	..
Gōdāvari, Upper	Do.	14,311 2 0	23,231 7 0	37,542 9 0	37,461 0 0	81 9 0
Do. Lower	Do.	59,512 2 8	2,09,892 0 8	2,69,404 3 4	2,11,792 0 0	57,612 3 4
Kistna	Do.	12,678 14 5	53,907 13 11	66,586 12 4	63,883 0 0	2,703 12 4
Kurnool, East	Do.	3,347 1 0 (a) — 34 8 0	95,843 12 2	99,156 5 2	78,842 0 0	20,314 5 2
Do. South	Do.	44,658 5 4	98,107 5 4	1,42,765 10 8	1,12,091 0 0	30,674 10 8
Do. West	Do.	77,117 12 0	1,04,498 12 0	1,81,616 8 0	1,79,104 0 0	2,512 8 0
	Total ..	2,41,653 8 1	7,43,418 5 6	9,85,071 13 7	8,32,891 0 0 (b) 4 12 0	(d) 1,52,176 1 7
Central Circle.						
Direction	Timber and other forest produce.	..	..	..	..	..
Bellary	Do.	5,368 7 4 (a) — 31 8 0	2,34,923 3 4	2,40,260 2 8	(f) 1,95,675 0 0	44,585 2 8
Anantapur	Do.	3,49,157 13 10	45,848 2 8	3,95,006 0 6	3,41,539 0 0 (b) +162 3 9	53,304 12 9
Guntūr	Do.	11,121 15 9	2,04,036 4 3	2,15,158 4 0	(g) 1,96,821 0 0	18,337 4 0
Cuddapah, North	Do.	6,038 2 0	53,000 15 6	59,039 1 6	50,886 0 0	8,153 1 6
Do. South	Do.	15,508 3 0	60,120 12 4	75,628 15 4	49,976 0 0	25,652 15 4
Do. West	Do.	6,330 14 2	92,606 6 1	98,937 4 3	66,407 0 0	32,530 4 3
Nellore	Do.	1,03,094 4 8 (a) — 793 3 2	3,32,632 7 3	4,34,933 8 9	(h) 3,14,128 0 0 (b) + 488 2 9	1,20,317 6 0
Chingleput	Do. ..	8,479 5 11	70,000 12 1	78,480 2 0	58,720 0 0	19,760 2 0
Chittoor	Do. ..	36,892 8 0	1,27,658 5 0	1,64,550 13 0	(c) 1,46,618 0 0	17,932 13 0
	Total ..	5,41,991 10 8 — 824 11 2	12,20,827 4 6	17,61,994 4 0	14,20,770 0 0 + 650 6 6	3,40,573 13 6
Southern Circle.						
Direction	Timber and other forest produce.	..	3,49,895 0 0	3,49,895 0 0	3,49,895 0 0	..
Vellore, North	Do.	12,868 14 9	1,23,950 14 0	1,36,819 12 9	1,20,339 0 0	16,480 12 9
Do. South	Do.	25,936 7 4	1,61,985 14 5	1,87,922 5 9	1,55,326 0 0	32,596 5 9
Do. West	Do.	12,821 14 6	1,26,247 7 1	1,39,069 5 7	1,30,838 0 0	8,231 5 7
Arcot, South	Do.	2,26,852 11 1	1,17,735 9 4	3,44,588 4 5	3,27,675 0 0	16,913 4 5
Salem, North	Do.	25,802 7 1	1,11,294 13 7	1,37,097 4 8	1,10,385 0 0	26,712 4 8
Do. South	Do.	56,341 3 10	1,04,116 6 4	1,60,457 10 2	1,24,881 0 0	35,576 10 2
Trichinopoly	Do.	6,565 9 1	90,042 6 11	96,608 0 0	87,573 0 0	9,035 0 0
Madura	Do.	39,189 6 10	1,32,733 10 4	1,71,923 1 2	1,36,370 0 0	35,553 1 2
Tinnevelly	Do.	11,303 14 10	1,60,072 15 1	1,71,376 13 11	1,49,939 0 0	21,437 13 11
Forest Engineer	Do.	..	119 0 0	119 0 0	119 0 0	..
	Total ..	4,17,682 9 4	14,78,194 1 1	18,95,876 10 5	16,93,340 0 0	2,02,536 10 5
Western Circle.						
Direction	Timber and other forest produce.	..	140 0 0	140 0 0	140 0 0	..
Mangalore, North	Do.	6,266 12 11	96,031 12 4	1,02,298 9 3	92,141 0 0	10,157 9 3
Do. South	Do.	2,185 4 4	58,516 1 4	60,701 5 8	53,900 0 0	6,801 5 8
Malabar, North	Do.	57,936 11 11	1,00,424 3 1	1,58,360 15 0	1,45,803 0 0	12,557 15 0
Do. South	Do.	3,659 8 0	4,20,981 6 4	4,24,640 14 4	4,20,617 0 0	4,023 14 4
The Nilgiris	Do.	6,677 15 1	1,25,691 3 0	1,32,369 2 1	1,23,170 0 0 (b) 6 7 10	9,192 10 3
Kollegal	Do.	607 8 0	61,267 8 0	61,875 0 0	60,875 0 0	1,000 0 0
Coimbatore, North	Do.	16,033 0 2	1,69,215 5 4	1,85,248 5 6	1,59,172 0 0	26,076 5 6
Do. Central	Do.	58,194 9 8	1,35,821 5 2	1,94,015 14 10	1,44,010 0 0	50,005 14 10
Do. South	Do.	23,467 11 3	2,60,608 13 0	2,84,076 8 3	2,69,667 0 0	(j) 14,411 8 3
Working Plans office ..	Do.		2 0 0	2 0 0		
	Total ..	1,75,029 1 4	14,28,699 9 7	16,03,728 10 11	14,69,495 0 0 (b) 6 7 10	1,34,227 3 1
Grand total, Presidency ..		13,75,532 2 3	48,71,139 4 8	62,46,671 6 11	54,17,157 10 4	8,29,513 12 7

(a) Elimination on account of erroneous demand.
(b) Written off the accounts.
(c) Excludes Rs. 175 of Nellore revenue.
(d) Out of the total outstandings of Rs. 1,52,176-1-7 the amount actually due on or before 30th June 1918 was Rs. 26,366-13-7.
(e) Excludes Rs. 38,957 belonging to Parlakimedi Maliahs.
(f) Includes Rs. 138 of Kurnool district.
(g) Excludes Rs. 1,602 of Nellore district and includes Rs. 603 realized in Nellore district.
(h) Includes Rs. 1,602 and Rs. 175 realized in Guntūr and Chittoor districts respectively and excludes Rs. 603 relating to Guntūr district.
(i) Out of the total outstandings of Rs. 1,34,225-3-1, (corrected into 1,34,227-3-1) the amount actually due on or before 30th June 1918 was Rs. 37,972.
(j) Corrected in the Board's Office.

Annual Form No. 83.

Forest Department, Madras Presidency.

Financial results of the year 1917-18.

District.	Timber and other produce removed from the forests by Government Agency.		Other revenue.		Formation, protection and improvement of forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
Northern Circle.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Ganjām	(b) (i) 8,162	(c) (j) 13,080	(d) (k) 72,259	(e) (l) 54,784	(f) (m) 25,215	(g) (n) 80,421	(h) (o) 93,079
Vizagapatam	1,397	2,712	64,498	27,815	4,818	65,895	35,345
Gōdāvari, Upper ..	4 553	11,388	32,917	30,204	20,812	37,470	61,904
Do. Lower ..	1,106	7,166	2,10,721	62,968	16,695	2,11,827	86,829
Kistna	275	1,304	63,618	25,086	11,990	63,893	38,380
Kurnool, East ..	17,503	16,354	61,366	34,641	38,114	78,869	89,109
Do. South ..	375	3,476	1,11,735	47,547	29,151	1,12,110	80,174
Do. West ..	28,443	33,395	1,50,714	60,321	31,505	1,79,157	1,25,221
Golugonda and Hill Madgole Agency.	..	182	3,249	5,150	..	3,249	5,332
Total ..	61,814	89,057	7,71,077	3,48,516	1,77, 8	8,32,891	6,15,373 (a) 2,354
Central Circle.							
Bellary	638	..	1,94,900	44,732	20,538	1,95,538	65,270
Anantapur	25,708	33,361	3,15,831	36,107	24,167	3,41,539	93,635
Guntūr	2,459	1,872	1,94,361	35,722	20,092	1,96,820	57,686
Cuddapah, North ..	3,064	10,149	47,822	35,914	20,295	50,886	66,358
Do. South ..	287	21,729	49,689	39,747	23,400	49,976	84,876
Do. West ..	113	40,365	66,294	38,703	25,592	66,407	1,04,660
Nellore	18,040	3,518	2,96,089	53,674	37,882	3,14,129	95,074
Chingleput	557	330	58,163	23,799	17,510	58,720	41,639
Chittoor	8,524	9,154	1,38,094	50,319	33,857	1,46,618	93,330
Total ..	59,390	1,20,478	13,61,243	3,58,717	2,23,333	14,20,633	7,02,528 (a) 7,419
Southern Circle.							
Vellore, North ..	4,153	3,621	1,19,484	17,509	39,930	1,23,637	61,060
Do. South ..	1,53,987	5,366	87,352	36,379	56,190	2,41,339	97,935
Do. West ..	1,22,198	8,761	48,790	24,204	58,115	1,70,988	91,080
Arcot, South	459	1,318	3,72,962	30,787	6,871	3,73,421	38,976
Salem, North	66,383	12,652	1,07,733	47,304	27,780	1,74,116	87,736
Do. South	79,291	11,543	1,20,730	40,278	19,175	2,00,021	70,996
Trichinopoly	36,490	4,058	86,488	31,156	13,014	1,22,978	48,228
Madura	519	422	1,35,864	53,073	66,578	1,36,383	1,20,073
Tinnevelly	999	1.180	1.49,458	54,473	28,388	1,50.457	84,041
Total ..	4,64,479	48,921	12,28,861	3,35,163	3,16,041	16,93,340	7,00,125 (a) + 11,230
Western Circle.							
Mangalore, North ..	17,917	18,830	74,239	28,031	6,027	92,156	52,888
Do. South ..	14,423	44.133	39,492	19,089	8,925	53,915	72,147
Malabar, North ..	80,921	23,205	64,898	43,501	26,284	1,45,819	92,990
Do. South ..	4,05,590	84,122	15,042	9,664	41,119	4,20,632	1,34,905
The Nilgiris	77,155	1,00,914	46,031	22,102	47,775	1,23,186	1,70,791
Kollegal	22,317	7 431	38,573	21,823	18,548	60,890	47,802
Coimbatore, North ..	47,743	21,722	1,11,445	40,188	39,365	1,59,188	1,01,275
Do. Central ..	4,805	2,607	1,39,221	35,573	32,930	1,44,026	71,110
Do. South ..	98,687	33.992	1,70,996	77,045	25,622	2,69,683	1,36,659
Total ..	7,69,558	3,36,956	6,99,937	2,97,016	2,46,595	14,69,495	* 8,80,567
Grand total, Presidency.	13.55,241	5,95,412	40,61,118	13,39,412	9,63,769	54,16,359	27,42,807 (i) + 21,003

(a) Refunds and drawbacks.
(b) Excludes Rs. 6,803 belonging to Parlakimedi Maliahs.
(c) Do. 16,219 do. do.
(d) Do. 17,185 do. do.
(e) Do. 322 do. do.
(f) Do. 31,186 do. do.
(g) Do. 23,988 do. do.
(h) Do. 47,727 do. do.
(i) Do. 19,614 do. do.
(j) Do. 9,350 do. do.
(k) Do. 19,343 do. do.
(l) Do. 2,565 do. do.
(m) Do. 28,109 do. do.
(n) Do. 38,957 do. do.
(o) Do. 40,024 do. do.
* Includes refund.

Annual Form No. 84.

Part I.

Forest Department, Madras Presidency.

Statement of elephants and other live-stock during 1917–18.

District.	On hand at the commencement of the year.		Number received during the year.	Number disposed of during the year.	On hand at the end of the year.		Total expenditure on maintenance during the year.
	Number.	Value.			Number.	Value.	
(1) Elephants.							
Northern Circle.							
		RS.				RS.	RS. A. P.
Ganjām	(a) 2	(b)2,700	..	..	(a) 2	(b) 2,700	(c)1,224 9 0
Vizagapatam	1	3,000	..	..	1	3,000	985 0 0
Gōdāvari, Upper	2	3,700	..	.	2	3,700	1,593 5 10
Kurnool, West	2	5,500	..	..	2	5,500	1,491 10 9
Total ..	7	14,900	..	..	7	14,900	5,294 9 7
Central Circle—Nil.							
Southern Circle—Nil.							
Western Circle.							
Mangalore, South	4	14,500	..	..	4	14,500	2,411 10 3
Malabar, North	19	57,950	7	12	14	48,750	9,789 4 6
Do. South	38	1,34,600	23	22	39	1,29,050	19,453 10 10
The Nilgiris	26	65,550	20	22	24	64,800	15,152 14 9
Coimbatore, Central ..	..	..	4	..	4	11,500	668 0 5
Do. South ..	17	57,600	15	11	21	52,400	12,661 8 5
Total ..	104	3,30,200	69	67	106	3,21,000	60,137 1 2
Grand total (Elephants), Presidency.	111	3,45,100	69	67	113	3,35,900	65,431 10 9
(2) Other live-stock.							
Northern Circle.							
Ganjām	..	..	6	..	6	208	..
Kurnool, East	..	..	6	1	5	74	..
Do. West	18	900	..	1	17	850	1,563 12 4
Total ..	18	900	12	2	28	1,132	1,563 12 4
Central Circle.							
Chittoor	3	82	..	..	3	80	..
Southern Circle—Nil.							
Western Circle.							
Malabar, South	34	1,620	..	9	25	1,233	3,170 6 11
The Nilgiris	9	635	..	3	6	462	1,009 9 3
Coimbatore, South	71	4,439	24	22	73	5,202	11,086 12 10
Total ..	114	6,694	24	34	104	6,897	15,266 13 0
Grand total (Other Live-stock), Presidency.	135	7,676	36	36	135	8,109	16,830 9 4

(a) Excludes 2 elephants belonging to Parlakimedi Maliahs.
(b) Excludes Rs. 4,500 being value of 2 elephants belonging to Parlakimedi Maliahs.
(c) Do. 1,410 being total expenditure belonging to Parlakimedi Maliahs.

PART II.

Statement of elephants gone off the list during the year.

District.	Names.	When purchased or otherwise obtained by Government.	Age.	How disposed of.
		Northern Circle.		
			YRS.	
Ganjam ..	Hilda	Captured in April 1907 and transferred from South Coimbatore to the Ganjam district in 1915–16.	30	Died on 24th April 1917.
		Central Circle—Nil.		
		Southern Circle—Nil.		
		Western Circle.		
Malabar, North.	1. Phyllis	Purchased in 1878	67	Transferred to South Malabar in May 1918.
	2. Ranger	Captured on 17th March 1906	23	
	3. Dostijehan ..	Born on 3rd February 1902	16	
	4. Bessie	Do. 3rd July 1899	19	
	5. Desaraj ..	Do. 8th May 1917	1	
	6. Sarada	Captured on 12th April 1916	7	Sold.
	7. Sivaji	Do. 11th March 1917	7	
	8. Begum	Do. 11th ,, ,, ...	4	
	9. Aghakhan ..	Do. 14th March 1917	8	
	10. Nizam	Do. 25th April 1917	5	
	11. Yuvaraj ..	Do. 14th June 1917	4	
	12. Amir	Do. 14th ,, ,, ...	5	
Malabar, South.	1. Phyllis	Purchased in 1878	67	Retransferred to North Malabar.
	2. Samson	Do. 1884	41	
	3. Isabella	Captured on 17th February 1898	40	
	4. Dostijehan ..	Born on 3rd February 1902	16	
	5 Chikka Lakshmi.	Captured on 30th January 1882	59	Retransferred to The Nilgiris.
	6. Mars	Do. 20th March 1906	21	
	7. Togo	Do. 19th June 1905	15	
	8. Madhavan ..	Do. 12th March 1906	14	
	9. Hector	Do. 13th April 1906	18	
	10. Shanker ..	Do. 21st May 1907	15	
	11. Libera	Do. 5th March 1909	22	
	12. Cæsar	Do. 12th February 1910	14	
	13. Kamala	Do. 3rd ,, 1912	25	
	14. Lally	Do. 30th May 1913	25	
	15. Drona	Do. 2nd ,, 1914	11	
	16. Damayanti ..	Do. 30th April ,, ...	27	
	17. Valmiki ..	Do. 12th May ,, ...	10	
	18. Baker Ali ..	Do. 10th ,, 1911	17	
	19. Kamakshi ..	Do. 11th April 1914	21	
	20. Padmini ..	Do. 10th February 1896	48	
	21. Thamburan ..	Do. 12th August 1917	5	Sold.
	22. Phyllis	Purchased in 1878	67	Died.
The Nilgiris.	1. Chikka Lakshmi	Captured on 30th January 1882	59	Killed by a wild tusker.
	2. Lally	Do. 30th May 1913	26	Died.
	3. Sundari	Do. 1st December 1916	8	Sold.
	4. Narayana ..	Born on 23rd January 1916	1	
	5. Harischandra ..	Do. 21st November 1912	5	
	6. Janaki	Do. 15th January 1915	3	
	7. Amaravati ..	Captured on 18th March 1917	5	
	8. Lakshmi ..	Do. 24th November 1916	9	
	9. Caesar	Do. 12th February 1910	14	Transferred to South Malabar in May 1918.
	10. Satyabhama ..	Do. 13th May 1914	33	
	11. Padmini ..	Do. 10th February 1896	48	
	12. Valmiki ..	Do. 12th May 1914	11	
	13. Drona	Do 2nd ,, ,, ...	11	
	14. Kamala	Do. 3rd February 1912	25	
	15. Kamakshi ..	Do. 11th April 1914	21	
	16. Libera	Do. 5th March 1909	23	
	17. Norah	Do. 12th March 1906	20	
	18. Hector	Do. 13th April 1906	18	
	19. Baker Ali ..	Do. 10th May 1911	17	
	20. Mars	Do. 20th March 1906	21	
	21. Togo	Do. 19th June 1905	15	
	22. Shanker ..	Do. 21st May 1907	15	
Coimbatore, South.	1. Hercules ..	Captured in December 1890	28	Sold.
	2. Devaki	Captured on 24th November 1916	32	
	3. Leela	Do. 30th July 1917	2	
	4. Indravati ..	Do. 30th ,, ,, ...	13	Transferred to The Nilgiris.
	5. Abdulla	Do. 28th September 1917	2	Sold.
	6. Sekaram ..	Do. 11th December 1917	2	Died.
	7. Begum	Do. 30th ,, ,, ...	1	
	8. Ganapathi ..	Do. 19th January 1918	7	
	9. Abdul Rahiman.	Do. 7th April 1900	38	Transferred to Central Coimbatore.
	10. Kunjunni ..	Do. 16th March 1897	27	
	11. Amir	Born on 10th March 1918	..	Died.

ANNUAL FORM No. 85.

Forest Department, Madras Presidency.

Abstract showing the value of stores, tools and plant for 1917–18.

District.	Buildings.				Stores.				Totals.				Difference in value	
	On hand at the commencement of the year.		On hand at the end of the year.		On hand at the commencement of the year.		On hand at the end of the year.		On hand at the commencement of the year.		On hand at the end of the year.			
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	In favour of the year.	Against the year.
Northern Circle.		RS.		RS.		RS.		RS.		RS.		RS.	RS.	RS.
Direction ..	1	1,590	1	1,590	410	2,089	414	2,195	411	3,679	415	3,785	106	..
Ganjam ..	144	49,575	118	50,399	3,418	7,528	3,754	8,092	(a)3,562	(b)57,103	(c)3,872	(d)58,491	1,388	(e) 47
Vizagapatam ..	94	10,596	89	7,816	1,460	4,255	1,538	4,144	1,554	14,851	1,627	11,960	..	2,891
Gōdāvari, Upper.	126	28,850	125	27,765	3,117	16,167	3,201	16,873	3,243	45,017	3,326	44,638	..	379
Gōdāvari, Lower.	155	46,499	156	41,204	2,229	4,664	2,244	4,098	2,384	51,163	2,400	45,302	..	5,861
Kistna ..	39	5,443	38	5,313	1,326	9,759	1,358	10,112	1,365	15,212	1,396	15,425	213	..
Kurnool, East.	52	50,824	54	45,798	3,128	6,090	2,909	6,039	3,180	56,914	2,963	51,837	..	5,077
Do. South.	69	52,628	63	45,668	2,900	7,343	2,761	6,235	2,969	59,971	2,824	51,903	..	8,068
Do. West.	110	83,891	113	84,423	5,581	12,922	8,504	11,298	5,691	96,813	8,617	95,721	..	1,092
Total ..	790	3,29,896	757	3,09,976	23,569	70,827	26,683	69,086	24,359	4,00,723	27,440	3,79,062	..	21,661
Central Circle.														
Direction ..	..	..	..	..	375	3,096	370	2,871	375	3,096	370	2,871	..	225
Bellary ..	50	65,550	51	61,758	3,451	13,156	3,047	12,284	3,501	78,706	3,098	74,042	..	4,664
Anantapur ..	36	53,683	35	51,953	2,788	6,502	2,784	17,600	2,824	60,185	2,819	69,553	9,368	..
Guntūr ..	31	11,569	26	10,116	2,031	7,565	2,652	5,7[illegible]8	2,062	19,134	2,678	15,844	..	3,290
Cuddapah, North.	54	24,548	55	27,030	1,257	2,940	1,492	3,762	1,311	27,488	1,547	30,792	3,304	..
Cuddapah, South.	50	* 17,168	46	16,706	874	4,208	865	4,451	924	21,376	911	21,157	..	219
Cuddapah, West.	31	7,157	24	5,546	1,393	3,997	1,729	5,067	1,424	11,154	1,753	10,613	..	541
Nellore ..	54	34,742	53	33,168	45,943	33,564	45,919	31,861	45,997	68,306	45,972	65,029	..	3,277
Chingleput ..	26	10,623	23	9,077	1,591	3,191	1,616	2,960	1,617	13,814	1,639	12,037	..	1,777
Chittoor ..	43	21,947	44	22,472	2,774	4,774	2,708	5,204	2,817	26,721	2,752	27,676	955	..
Vernacular Training School.	..	..	..	..	469	933	634	933	469	933	634	933	..	..
Total ..	375	2,46,987	357	2,37,826	62,946	83,926	63,816	92,721	63,321	3,30,913	64,173	3,30,547	..	366
Southern Circle.														
Direction ..	..	..	..	..	184	2,415	188	2,269	184	2,415	188	2,269	..	146
North Vellore.	43	22,036	42	22,482	1,638	4,665	1,660	4,490	1,681	26,701	1,702	26,972	271	..
South do.	35	24,565	36	25,397	2,875	5,619	2,077	5,865	2,910	30,184	2,113	31,262	1,078	..
West do.	19	17,502	19	16,627	1,128	4,103	1,170	6,420	1,147	21,605	1,189	23,047	1,442	..
South Arcot cum Tanjore.	38	20,657	32	19,513	1,674	3,389	1,634	3,287	1,712	24,046	1,666	22,800	..	1,246
North Salem ..	120	*91,681	130	99,588	2,587	6,562	2,911	8,834	2,707	98,243	3,041	1,08,422	10,179	..
South do. ..	61	41,752	57	38,032	3,039	7,073	3,019	6,945	3,100	48,825	3,076	44,977	..	3,848
Trichinopoly ..	26	14,957	36	18,837	3,048	9,747	2,966	9,370	3,074	24,704	3,002	28,207	3,503	..
Madura ..	118	81,886	109	82,979	3,220	5,398	3,219	5,134	3,338	87,284	3,328	88,113	829	..
Tinnevelly ..	109	54,854	109	52,507	1,851	4,463	1,841	4,009	1,960	59,317	1,950	56,516	..	2,801
Special Working Plans Officer.	..	..	..	..	368	2,490	260	1,733	368	2,490	260	1,733	..	757
Vernacular Training school.	..	..	..	..	523	1,067	827	2,314	523	1,067	827	2,314	1,247	..
Total ..	569	3,69,890	570	3,75,962	22,135	56,991	21,772	60,670	22,704	4,26,881	22,342	4,36,632	9,751	..
Western Circle.														
Direction ..	1	66	1	63	447	6,260	386	4,767	448	6,326	387	4,830	..	1,496
Mangalore, North.	37	23,462	40	24,356	860	3,751	926	4,177	897	27,213	966	28,533	1,320	..
Do. South.	23	8,017	26	14,433	1,146	4,061	1,182	4,282	1,169	12,078	1,208	18,715	6,637	..
Malabar, North	78	47,560	80	47,731	4,226	5,081	3,005	4,733	4,304	52,641	3,085	52,464	..	177
Do. South.	55	40,702	56	42,289	1,692	5,991	1,685	5,556	1,747	46,693	1,741	47,845	1,152	..
The Nilgiris ..	71	45,785	72	47,796	2,337	11,979	2,378	11,449	2,408	57,764	2,450	59,245	1,481	..
Kollegal ..	33	20,119	33	18,247	*21,047	6,153	21,136	6,028	21,080	26,272	2,11,169	24,275	..	1,997
Coimbatore, North.	78	72,548	76	62,099	3,134	10,972	3,043	10,683	3,212	83,520	3,119	72,782	..	10,738
Do. Central	55	19,065	56	19,903	7,572	7,280	1,795	6,977	7,627	26,345	1,851	26,880	535	..
Do. South.	71	39,568	71	41,293	2,212	10,123	6,006	8,674	2,283	49,691	6,077	49,967	276	..
Vernacular Training School.	..	..	..	..	358	1,365	387	1,865	358	1,365	387	1,865	500	..
Working Plans Office.	..	..	..	..	366	2,490	90	1,158	366	2,490	90	1,158	..	1,332
Forest Engineer.	..	..	..	..	..	..	415	† ..	..	..	415	† ..	..	..
Total ..	502	3,16,892	511	3,18,210	45,397	75,506	42,434	70,349	45,899	3,92,398	2,32,945	3,88,559	..	3,889
Grand total, Presidency.	2,236	12,63,665	2,195	12,41,974	154,047	287,250	154,705	292,826	156,283	15,50,915	346,900	15,34,800	..	16,115

* Revised figure. † Reported to be not known yet.

(a) Excludes 838 items belonging to Parlakimedi Maliahs.
(b) Excludes Rs. 3,159 being value of articles belonging to Parlakimedi Maliahs.
(c) Do. 1,015 items belonging to Parlakimedi Maliahs.
(d) Do. Rs. 3,113 being value of articles belonging to Parlakimedi Maliahs.
(e) Do. 47 belonging to Parlakimedi Maliahs.

Government of Madras

REVENUE (SPECIAL) DEPARTMENT.

G.O. No. 941, 31st December 1918

Forest Administration Report

Recording, with remarks, the — for the year 1917–18.

READ—the following paper :—

Proceedings of the Board of Revenue (Land Revenue), Forest No. 42, dated 22nd November 1918.

The Hon'ble Mr. M. E. COUCHMAN, I.C.S.,
Commissioner of Land Revenue and Forests.

The Board submits to Government its report on the progress of Forest Administration in the Madras Presidency for the year ending 30th June 1918.

2. *Alteration in area.*—The present policy of Government is to abandon small isolated reserves which are not likely to repay the time and money spent on them, and the protection of which, owing to their being surrounded by cultivation, leads to constant friction with the villagers, and to convert all valuable unreserved lands into reserved forests.

In pursuance of this policy, about 71 square miles were notified under section 16 of the Forest Act, mostly in *Ganjām*. About 39 square miles, in *Kurnool*, *Guntūr*, *South Arcot*, *Trichinopoly*, *Gōdāvari Lower* and *North Vellore*, were disafforested. As a result of his inspection the Forest Commissioner has come to the conclusion that there are still many reserves which should be given up, in a few cases because they are fit for cultivation but more often because they consist of isolated rocky hills on which no good growth could ever be hoped for. Where possible, forest panchayats are being formed for such areas and in some cases the grazing fees are being raised in order to induce the villagers to take them up on panchayat. Where panchayats cannot be formed, the areas will be given up altogether.

The total area of reserved forests was 18,838 square miles at the close of the year, an increase of 28 square miles on last year's figure. The area of reserved lands fell from 725 square miles to 608 square miles, chiefly owing to the transfer of a large area to reserved forests. Since the close of the year the Sandur leased forests (63 square miles), which are included in the area of reserved lands, have been surrendered to the Darbar.

In the Parlakimedi Maliahs two blocks of four square miles were added to reserved lands during the year. The total number of blocks which had been selected for reservation in the Maliahs up to the end of the year was 27, aggregating 200 square miles.

3. *Forest settlement.*—As in previous years, forest settlement work was carried out by Revenue Divisional officers. Out of a total area of 488 square miles, which awaited settlement at the close of the year, the Northern Circle alone accounts for 418 square miles consisting of three large blocks in the *Gōdāvari* district. It is reported that the final notification for two of these blocks, viz., Peddamedisileru (96·48 square miles) and the Coringa extension reserve (75 square miles), will be ready for publication during 1918–19. No progress worth the name has yet been made with the scheme of reservation in the Rampa forests. The question of employing a special staff to push on the work is now under correspondence with the Conservator of Forests, Northern Circle. As regards the Southern Circle, the area of unreserved forests which have to be reserved under the Forest Act in the Attur taluk of the *North Salem* division alone is about 39 square miles, but the proposals which have so far been received relate to only 13 square miles. The Conservator of Forests,

Southern Circle, has been asked to report what is being done to select and notify the remaining areas. Very little forest settlement work remains to be done in the Central and Western Circles.

4. *Demarcation.*—An inconsiderable advance was made in the demarcation of forest boundaries, only 60 miles of boundary lines having been dealt with during the year, of which 29 miles were in *Bellary* and 21 in *Madura*. Four hundred and forty-six miles remained to be demarcated at the close of the year (principally in the districts of *Madura*, *Mangalore South* and *Kollegal*) out of which the Western Circle alone is responsible for 361 miles. The length of old boundaries repaired during the year was 17,996, against 18,808 miles in the previous year; of this length, 15,542 miles were cleared by subordinates free of cost, against 12,259 miles in 1916–17. The average cost per mile of fresh demarcation and of repairs rose from Rs. 37–1–8 and Rs. 3–2–0 to Rs. 96 and Rs. 7–10–8. The increased cost occurred chiefly in the Southern Circle, where the final demarcation of reserves was carried out in *Madura* over a length of 21 miles at a total cost of Rs. 3,530 or Rs. 167 per mile. The revision of the boundaries between the *Nilgiri* and *Coimbatore* districts, which was sanctioned in G.O. No. 2953, Revenue, dated 20th December 1916, was being dealt with by the District Forest Officer of the *Nilgiris*, and the Collector of the *Nilgiris* has been requested to expedite the draft notification called for in paragraph 1 of the Government Order. The work of verifying and demarcating forest boundaries in the *Nilgiris*, for which a special Forest establishment was sanctioned in G.O. No. 2038, Revenue, dated 6th September 1916, has been postponed with the sanction of Government—vide G.O. Mis. No. 2491, Revenue, dated 2nd July 1918.

5. *Surveys.*—The Survey of India party continued its operations in the *Nellore* district and completed the survey of 45 square miles on the 4″ scale and 134 square miles on the 2″ scale. Some work was also done by the party in the *South Cuddapah* division. A special Surveyor deputed by the Survey of India completed the final survey of some of the teak plantations in *South Malabar*. The Surveyor deputed by the Madras Survey party (G.O. Mis. No. 3849, Revenue, dated 30th November 1917) completed the survey of 14 blocks on the Anamalais from December 1917 to February 1918. A special district reference map of the *South Malabar* division (prepared by Mr. Descubes) was printed and published by the Forest Map Office, Dehra Dun. The work of printing the maps of forest divisions in the Forest Map Office, Dehra Dun, was retarded by the absence of officers on Military duty.

6. *Working-plans.*—The shortage of officers during the war and the dislocation of work caused by the requirements of the Indian Defence Force Act prevented much progress being made with working-plans. Plans covering 273 square miles were sanctioned during the year. For about one-third of the area of the reserved forests of the Presidency working-plans have yet to be prepared.

The areas under the various sylvicultural systems were as follows :—

	SQ. MILES.
(1) Clear felling	130
(2) Selection felling	1,016
(3) Simple coppice	690
(4) Coppice with standards	1,807
(5) Improvement fellings	1,224

In his note on some European sylvicultural systems, Mr. R. S. Troup says (page 13): "The fundamental principles on which the preparation of the Indian working-plans is based are unsound. . . . As provisional methods of treatment and pending the introduction of true system of management, such fellings may answer a temporary purpose but the time has come when serious efforts should be to place a larger area of forests under true systematic working." This is specially true of the Madras Presidency where the variety of species, climates, soils and other local conditions are probably larger than in any other province of India. The Board is therefore glad to record the fact that during the year the Government have sanctioned the appointment of a Provincial Sylviculturist, because one of the essentials for the preparation of true systems of management is a thorough knowledge of the sylviculture of the chief species. In *Malabar* and *Ganjām*, Messrs. Bourne and Minchin are preparing working-plans for which a considerable knowledge of the

sylviculture of the chief species involved has been already collected. Mr. H. F. A. Wood has completed a similar working-plan for the Tekkadi forests in *South Coimbatore*, which is now under consideration. In the course of time, it may be hoped that working-plans based on true sylvicultural and economic principles will be prepared for other areas. Useful working-plans already exist for some of our chief sandal areas and during the year a working-plan was sanctioned for the *South Salem* sandal forests. A special staff is working on the revision of the working-plans of the Begur forests, *North Malabar*. Little progress could be made during the year with the *Tinnevelly* working-plan as the officer in charge was frequently called away for military duties.

7. *Communications and buildings.*—Strict economy was exercised in expenditure and only Rs. 1·55 lakhs were spent on roads and communications. Expenditure on buildings rose from Rs. 1·02 lakhs to Rs. 1·16 lakhs. This increase was chiefly due to the construction of sandalwood godowns and quarters for subordinates in the Javadis. The important road to Komattiyeri in the Javadis was opened soon after the close of the year and the Forest Engineer has completed the plans and estimates for the proposed steam tramway from the Anamalai road station to the Mount Stuart forests. The estimate amounts to Rs. 6½ lakhs and will be submitted to Government shortly.

8. The present bullock tramway in the Tekkadi forests was extended by four furlongs. No other new works of any magnitude were undertaken during the year, but programmes for opening up the forests of *Cuddapah* and *Kurnool* have been called for, with a view to increasing and cheapening the supply of fuel and timber in those districts.

9. *Forest offences.*—The following table compares the forest offences of all kinds reported during the year with those of 1916–17 and with the average of the preceding three years :—

—	Injury to forests by fire.		Unauthorized felling.		Unauthorized grazing.		Other offences.		Total.		Average for the three years ending 1916–1917.
	1916–17	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	1916–17.	1917–18.	
Cases taken to court.	50	44	4,275	4,565	1,596	1,631	296	306	6,217	6,546	6,747
Cases compounded.	86	69	13,782	12,775	5,313	4,898	781	839	19,962	18,581	21,609
Cases undetected.	1,217	1,474	419	408	257	60	15	22	1,908	1,964	2,148
Total ..	1,353	1,587	18,476	17,748	7,166	6,589	1,092	1,167	28,087	27,091	30,504

It will be seen that the total number of offences reported during the year is 996 less than in the preceding year and 3,413 less than the average of the three preceding years.

This satisfactory decrease of crime is attributed generally to better protection ; in *Kurnool* to the fact that the inhabitants of the villages bordering on the forests were fully employed in work in coupes, and in hay-making ; in *Nellore* to the kancha system, by which the villagers are interested in the protection of the forests ; and in *South Kanara* and *Coimbatore* to the deterrent punishments inflicted on gangs of habitual thieves. The formation of forest panchayats for forests in which grazing is the chief consideration, and the introduction of the forest village system in the Javadi hills must also have contributed to this result. The decrease would have been greater but for the fact that with the increases which are being sanctioned from time to time in the forest staff fewer offences escape detection.

10. Unauthorized fellings formed the largest head of forest crime in all the circles. There was a satisfactory decrease under unauthorized grazing, although cases were numerous in the Central Circle, especially in the districts of *Anantapur*, *Chittoor*, *Nellore* and *Guntūr*, in all of which districts large numbers of goats are kept.

The further extension of the forest panchayat system and the forest village system, the extension of the kancha system to the *Chingleput* district and the disafforestation of small isolated forests for which panchayats cannot be formed, should lead to a decrease of crime under this head. The total number of offences connected with injury to forests by fire shows an appreciable increase—234 over the numbers of the preceding year. Ninety-three per cent of these cases remained undetected and this was due to the fact that all fire occurrences, except those caused in fire tracing, have been treated as offences. The miscellaneous offences under the head 'other offences,' which relate for the most part to breaches of forest rules, are comparatively unimportant and call for no comment.

11. The percentages of the cases that were taken to court, compounded and undetected, were 24·16, 68·59 and 7·25 respectively against 22·13, 71·08 and 6·79 in the previous year. The total number of cases disposed of by Magistrates fell from 7,438 to 6,671. That prosecutions in the majority of cases are not instituted without careful inquiries and due discrimination may be inferred from the fact that 91·66 per cent of the cases taken to court ended in conviction. The punishments inflicted by the Magistrates were generally adequate except in *Chittoor* and *the Nilgiris*. The matter is receiving the attention of the Collectors concerned.

12. More than half the cases were compounded and the compensation fees realized amounted to Rs. 1,72,932. The average compensation fee per case was Rs. 10–0–9 against Rs. 9–13–8 in the previous year.

13. Rewards amounting to Rs. 1,122 were granted to informers and forest subordinates, against Rs. 772 granted in the previous year. The Nilgiri Game Association paid Rs. 67–8–0 as rewards to forest subordinates for detecting cases of poaching.

14. *Protection from fire.*—The season was, generally speaking, dry and unfavourable to protection. Out of 7,142 square miles over which special protection was attempted, 696 square miles were burnt. Instances of deliberate incendiarism were reported from *Kurnool*, *Anantapur*, *Cuddapah* and *Nellore*. The hill tribes in *Ganjām*, *Gōdāvari* and *South Coimbatore* were helpful in putting out fires. In *South Kurnool*, the Chentsus did good work, but in *West Kurnool* they were responsible for many fires. The special measures which are being taken to provide the Chentsus with other means of living will, it is confidently hoped, minimise fires in this district in the future, though time will be required for the desired result.

In addition to the specially protected areas, ordinary protection was attempted over 8,811 square miles and was successful over 8,059 square miles. The Board, however, is sceptical as to the reliability of these figures. In many districts it is difficult to check the burnt areas. In several cases punitive steps were taken when fires were bad and when the villagers rendered no help in extinguishing them.

15. *Grazing.*—Grazing licences were issued to 2,482,592 animals, a decrease of 222,367. It may be hoped that the decrease in grazing, if real, is partly due to the transfer of reserves to panchayats, to the extension of the kancha and forest village systems and to the success of the attempts which are being made to reduce the excessive incidence of grazing in many of the reserves by the introduction of grazing schemes. The kancha system worked well in the *Nellore* district and is being introduced into the *Chingleput* district. Thirty-three silver medals and cash rewards amounting to Rs. 2,383 were awarded for good protection, and were much appreciated. Defaulting kanchadars were fined where protection was specially bad. An Extra Assistant Conservator was specially deputed to popularise the system and to hold the kancha sales. Three hundred and seventy kancha leases were granted for 256,379 acres of grazing land; 5,627 acres of forests closed to grazing were entrusted to kanchadars for protection.

16. The aggregate receipts for the whole Presidency under grazing fees amounted to Rs. 7,39,674; the figure of the previous year was Rs. 7,03,869. The increase is explained by the enhanced grazing fees which were imposed in several districts with the object of stimulating the formation of panchayats and the introduction of the forest village system. If these objects are attained, the grazing fees will actually be reduced, by refunds made at the end of each year. The forest village system was

a success in the hill villages of the Polur and Santavasal ranges of *South Vellore* division and in three ranges in *West Vellore.* Refunds amounting to Rs. 6,720 were granted to those villages which had earned it by good protection. No one system will be suitable for the whole Presidency; but the Board is hopeful that by some scheme of rewards and penalties, modified to suit local conditions, the grazing problem throughout the Presidency may in time be, if not solved, at least rendered less acute than it is now. Such a solution is desirable no less in the interests of the villagers than of the forests. The number of cattle impounded was 118,806 or 7 per cent in a total of 1,620,964 head of cattle which grazed in the forests either free or on payment.

17. *Sylviculture—Natural and Artificial reproduction.*—The natural reproduction in respect of teak, sandalwood and other species was satisfactory in several districts. At Nilambur the 27 acres of mature teak plantations felled last year were successfully replanted, and 17 acres were clear-felled and replanted. The regeneration of the natural forests at Nedungayam was also commenced, : 46 acres of these forests were sold for clear felling with the intention of planting teak, but owing to the abnormally early monsoon only 10 acres could be got ready for planting. Some experimental planting of *Terminalias* and other species besides teak is being undertaken here, as portions of the land are unsuited to teak. In all 69 acres were planted during the year in the Presidency. Other cultural operations were carried on over 9,086 acres. The appointment of a Provincial Sylviculturist having been sanctioned during the year, it is anticipated that this section of the report will gain in interest and importance in the future.

18. *Exploitation.*—(1) *Fuel.*—Fuel coupes amounting to about 2,500 square miles were worked over during the year, in addition to which a large quantity of fuel was extracted from the improvement fellings in *Cuddapah* and other districts.

(2) *Timber.*— At Nilambur 70 acres of teak plantations were felled. The highest yield per acre was Rs. 13,450 net after allowing for the cost of extraction, and the average yield over 21 acres was Rs. 7,370 per acre net. In the Amarampalem reserve of the same district 46 acres of natural forest were clear-felled for the formation of a teak plantation. The amount realized for the sale of standing timber was Rs. 4,024. Fellings were also begun in the Karimpoya reserve to supply timber to the Munitions Board. 10,720 c.ft. of timber were supplied to that Board from the Tekkadi forests. The rest of the timber extracted was from selection and improvement fellings.

(3) *Sandal.*—Sandalwood has risen in price during the war and is now an important item of revenue.

The following table shows the value of the sandalwood sold during the last four years:—

		RS.
1914–15	... ...	1,75,798
1915–16	... ...	2,38,121
1916–17	... ...	4,88,165
1917–18	... ...	5,23,697

The receipts during the year under report would have been much higher had the demand continued, but the price fell to an almost nominal figure towards the end of the year, and only 31 tons were sold in the Western Circle leaving over 200 tons unsold. The average value per ton of the sandalwood sold was Rs. 1,733 in the Western Circle and Rs. 1,822 in the Southern Circle.

(4) *Bamboos* are becoming a more and more important item of revenue. During the year, the value of the bamboos sold was Rs. 3,24,710.

(5) *Tanning stuffs.*—The whole of the business of marketing *Cassia auriculata* and *Cassia fistula* was handed over to the Munitions Board in return for a fixed payment based on the average revenue derived by the Forest Department from tan stuffs during the five years preceding the war. This arrangement involved during the year 1917–18 a sacrifice of about Rs. 3 lakhs which is part of the Madras contribution to the war. The Munitions Board has expressed its appreciation of this concession.

Large quantities of the bark of *Anogeissus latifolia* are also being supplied to the Munitions Board for tanning purposes. This is a new discovery made in the Madras Leather Trade School.

(6) *Hay-making.*—The work of hay-making, which had been abandoned by the Department under the orders of Government, was taken up during the year in several districts of the Presidency to meet the requirements of the Army. About 2,500 tons of hay were supplied to the Military Grass Farms Department, in addition to the quantity exploited by that department in *Kurnool* and *Cuddapah* under the supervision of Mr. T. Clear, Deputy Conservator of Forests, whose services were placed at the disposal of the Military department for the purpose.

19. *Agency of exploitation.*—The quantities of timber and fuel, extracted otherwise than for free grants or for the benefit of right holders, amounted, in thousands of cubic feet, to 26,476 units, against 24,531 in the previous year. For timber, the employment of departmental agency was almost confined to the Western Circle. The districts which contributed chiefly to the increase in departmentally felled timber were (1) *South Malabar*, where 70 acres of teak plantations were felled in Nilambur and where increased fellings were carried out in other plantations and (2) *South Coimbatore*, where timber was felled for supply to the Military Department. Fuel was extracted departmentally chiefly in the *Nilgiris*, where the increased outturn was due to arrear clear fellings and increased demand.

The value of the bamboos extracted departmentally increased by Rs. 12,257 while that of the produce removed by purchasers decreased by Rs. 19,371. The chief centre of departmental collection was *Kurnool West*, the object in view being to provide employment for the Chentsus.

20. The value of the minor produce removed by departmental agency increased by Rs. 1,69,504 and that removed by purchasers by Rs. 1,68,878. The high prices realised for tanning barks, the enhancement of grazing fees in several districts chiefly in the Southern Circle, and the sale of hay to the Military department, chiefly contributed to the increase.

21. The estimated value of forest produce removed by right holders was Rs. 52,225 (against Rs. 55,684 in the previous year) and the value of produce granted free amounted to Rs. 39,591 (against Rs. 47,766 in the previous year).

22. *Financial results.*—The financial results of the year are noteworthy. The gross revenue realised during the year amounted to Rs. 54·16 lakhs, an increase of Rs. 6·37 lakhs over last year. This increase was chiefly due to the high prices of sandal, the sale of teak from the Nilambur plantations, the manufacture of hay for the army, the sale of forests no longer considered worth preserving in the *South Arcot* and *Trichinopoly* districts, and the high prices realised for tanning barks.

The expenditure under A. Conservancy and works increased from Rs. 11·89 lakhs to Rs. 13·34 lakhs and that under B. Establishment rose by Rs. 10,361 and the total expenditure under both the heads amounted to Rs. 29·20 lakhs. The net surplus amounted to Rs. 24·97 lakhs, compared with Rs. 19·95 lakhs of the last year. This surplus is the highest yet recorded, but represents an unhealthy state of things, as all but the most urgently necessary expenditure was postponed. A good many officers are absent on military duty, and thus the efficiency of the department and the development of the forests has been retarded. This is an inevitable result of the war. Receipts have also been abnormally high, owing to the sale of forests and the great rise in the value of sandalwood and other produce. After the war, an increase in expenditure and a temporary decrease in revenue must be anticipated as a considerable capital outlay will be necessary to develop the forests.

23. *Research and experiments.*—Messrs. Parry & Co. reported after experiment that *sal* wood was useless for making casks, being too brittle and porous. Reference was made last year to experiments made with *Euphorbia* as a pencil wood. The Director of Industries has now reported unfavourably; he finds the wood too knotty. Painting trees with lime as a means of destroying creepers was again, generally speaking, a failure. Experiments are being continued in *Ganjām* and *Kurnool West* and it is expected that they will be concluded in 1918–19. Since the end of the year the Conservator has received a report from the District Forest Officer, *South*

Cuddapah, on the results of the experiments initiated by Mr. Marsden, the Imperial Sylviculturist, for the purpose of determining the girth increment and development of heavily thinned red sanders and the condition best suited for the natural regeneration of this species. The report is awaited. Experiments in the inoculation of *Butea frondosa* and *zizyphus xylopyra* with lac culture are being made by the Government Entomologist in the *Central Coimbatore* division in consultation with the District Forest Officer. Thinnings of bamboo clumps are being continued in certain reserves in the Southern Circle and the results are being watched. Many of the tan-stuffs which abound in the Southern Circle have been tested and analysed by Mr. J. A. Pilgrim, Tanning Expert. The analyses made in the Leather Trade school show that *Anogeissus latifolia* bark contains a high percentage of tannin. The leaves of the same tree are also a valuable tanning material and it is possible that a trade in this may be developed both for local use in producing finished leather and for export to Europe.

24. *Administration.*—The Hon'ble Mr. M. E. Couchman was head of the forest administration throughout the year. He toured in thirteen districts of the Presidency. In July 1917 he visited the Sriharikota reserve in the *Nellore* district in connexion with the question of acquiring and reserving the enclosures in the island. In *Ganjām* he visited the *sal* forests to examine a proposal to open a saw-mill at Russellkonda. In *Kurnool* he dealt with the questions of allotting of lands for a Donga Woddar settlement near the Siddapuram tank and of providing employment for the Chentsus. In the Javadis the working of the Malayali village system engaged his attention. In *South Kanara* he inspected the sandalwood areas with both the District Forest Officers and held a conference there in connexion with the revision of the sandalwood transit rules. Copies of the Forest Commissioner's inspection notes of his tours in the districts of *Kurnool*, *Cuddapah* and *Anantapur* have already been submitted to Government. Copies of his inspection note of his tours in the Mamundur forests of the *Chittoor* district were communicated to the local officers.

Messrs. H. A. Latham, P. M. Lushington and C. D. McCarthy were in charge of the Northern, Southern and Western Circles throughout the year. Mr. H. B. Bryant was in charge of the Central Circle up to the 2nd April 1918 and from 18th June 1918 to the rest of the year. During the intervening period Mr. H. F. A. Wood, Deputy Conservator of Forests, acted as Conservator. All the District Forest offices except those of *Gōdāvari Upper* and *South Arcot* were inspected by the Conservators. The Board has received the Conservators' inspection notes on the forests inspected by them in the districts of *Ganjām*, *Vizagapatam*, *Kistna*, *Chingleput*, *South Cuddapah* and *Vellore*. The Conservator of Forests, Western Circle, inspected some of the forests of his circle. His inspection notes on *Central Coimbatore* and *North Mangalore* were received after the close of the year. The Conservator has been requested to expedite his inspection notes on the remaining forest divisions in the circle. All the Conservators of Forests and all District Forest Officers except those of *North Salem* and *North Coimbatore* spent an adequate number of days in touring and the short touring of the excepted officers has been satisfactorily explained. All the range offices except one in *Kurnool West*, one in *West Cuddapah* (which range was formed only on 1st April 1918), one in *North Salem* and one in *North Coimbatore* were inspected by the District Forest Officers. The accounts of all the District Forest offices but nine were inspected by the auditors of the Accountant-General's office and the results were reported to be generally satisfactory.

With a view to securing the efficiency of the forest offices, the control of the District Forest office establishment was retransferred to the Collector in G.O. No. 3369, Revenue, dated 29th October 1917.

25. *Forest Panchayats.*—Though the forests have all been classified in accordance with the recommendations of the Forest Committee, it is reported that revision will prove necessary in some of the districts, specially in the Central Circle. There has been a satisfactory increase in forest panchayats, which now number 354 compared with 290 last year. The area under management is now about 496 square miles of reserved forests and unreserved lands, compared with 479 square miles during the last year. The panchayats are reported to have worked well on the whole. The chief irregularities reported were over-grazing, goat browsing, illicit felling of trees and removal of manure leaves. Only five panchayats are reported to have been dissolved and the

area under their management resumed on account of misconduct. The dissolution of a panchayat in Kistna and the resumption of the forest is reported to have had a salutary effect on the other panchayats in the district which are now working better. Since the close of the year 56 additional panchayats have been formed (or are likely to be formed) for the management of 88 square miles. In some cases the grazing fees have been raised in order to put pressure on the villagers to take up the forests on panchayat management.

26. *Chentsus.*—The Government have sanctioned the extension for a further period of two years of Mr. L. Saunders' deputation as Special Chentsu officer (G.O. Mis. No. 110, Revenue, dated 2nd August 1918). The Board has submitted to Government, since the close of the year, Mr. Saunders' annual report for the year 1917–18 which explains the measures he has devised to provide permanent employment for the Chentsus on a business basis They were chiefly employed on the extraction of bamboos, the collection of minor produce, fire protection and the bunding of streams in the *West Kurnool* division where Mr. Saunders has chiefly concentrated his work. The wages earned by the Chentsus on forest works amounted to Rs. 21,325. Some of them were also being taught agriculture under the supervision of the special officer. The results of Mr. Saunders' work during the year were very promissing.

27. *Miscellaneous.*—Mr. A. W. Lushington, C.I.E., resigned his appointment as temporary assistant to the Forest Commissioner with effect from 8th January 1918. His experiments in the seasoning of timber were not carried on long enough to justify any conclusions being drawn from them.

M.R.Ry. K. R. Venkataramana Ayyar, Extra Deputy Conservator of Forests, was appointed for a period of six weeks to ascertain the conditions of the sandalwood and sandalwood oil markets. His report on the subject was submitted to Government after the close of the year. The period of the special duty of Mr. T. N. Hearsey, Extra Assistant Conservator of Forests, who is engaged in the investigation of 'spike' in sandal, was extended to October 1919.

The report of Mr. J. Brookes of Messrs. Parry & Co., who was deputed by Government to investigate the possibility of erecting a saw-mill at Russellkonda, showed that there would be no difficulty in erecting the mill if the required plant could be secured from England or America. Messrs. Parry & Co. are writing to well-known manufacturers of saw-mill machinery in England and America to obtain quotations for the plant required.

The transfer of the control of the Anamalai township to the Revenue Department was sanctioned by the Government after the close of the year. At an exhibition which was held in Madras during the Christmas week of December last under the auspices of the Madras War Fund Committee the Forest Department exhibited a number of products, consisting chiefly of various species of hard and soft woods. The stall was under the charge of Mr. A. W. Lushington, C.I.E., and was awarded by the Exhibition Committee a certificate of merit. During the year the sanction of the Secretary of State was received for the reorganization of the controlling staff of the Forest Department. The cadre of the controlling staff has been augmented by ten Imperial posts including a Chief Conservator and ten Provincial posts. The local Government have submitted proposals to the Government of India for the reorganization of the subordinate staff of the department and final orders on the subject are awaited.

28. *Forest charges.*—The transfer of the headquarters of the Southern Circle from Trichinopoly to Salem was sanctioned and the move will shortly be made. Proposals for the redistribution of the forest divisions of *Salem*, *South Arcot* and *Trichinopoly*, which have been received from the Conservator of Forests, Southern Circle, are now under the Board's consideration. Government have approved of the proposal of the Board of Revenue for a readjustment of the boundaries between the North and West divisions of the Cuddapah district; as a consequence the *West Cuddapah* division has become a major charge and the *North Cuddapah* division a minor charge. During the year the Board has again considered the question of the formation of a fourth division in the *Kurnool* district and has called for a notification describing the limits of the new division before addressing the Government in the matter.

29. Among the Imperial officers, Messrs. Rigold, Clear, Wilson and Whitehead have joined the Indian Army Reserve of officers and Messrs. R. B. Cornwell, R. Mitchel, P. W. F. Walpole and A. Brand among the Provincial officers. M.R.Ry. K. R. Venkataramana Ayyar received the title of Rao Sahib for meritorious work. Mr. P. M. Lushington, Conservator of Forests, Southern Circle, was permitted to retire after the close of the year and to take up the post of the Deputy Controller of Timber supplies under the Munitions Board. The work of the superior officers was generally satisfactory.

30. *The Forest College, Coimbatore.*—The College continued to work satisfactorily. Out of the 27 students who appeared for the final examination, two Government students won the honours certificate and one of them received several prizes. Twenty obtained the higher standard certificate and five the lower standard. The final examinations in all the subjects were conducted by examiners from outside the staff of the College. The examiners' remarks go to show that the instruction was thorough and that greater attention was being paid to the practical side of the training; in the men at the bottom of the list, however, a lack of either intelligence or general education betrayed itself.

The 1917–19 division started in August 1917 with 33 students and closed the year with 28. By the close of the first term, five students who were found unfit to continue the training were weeded out.

During the year the Principal, who had been deputed to Dehra Dun to study the Museum of the Research Institute, introduced material alterations in the arrangement of sections and exhibits at the Gass Forest Musem. The Museum has continued to attract a large number of visitors.

31. *General Rules under the Forest Act.*—The working of the Timber and Sandalwood Transit rules was satisfactory. During the year the Sandalwood Transit rules were introduced newly into the *South Arcot* district. The people generally availed themselves of the privilege allowed by the rules under section 26 of the Forest Act and there were no complaints of any importance.

32. *Improvement of water-supply in Government grazing grounds (G.O. No.* 1622, *Revenue, dated 4th June* 1914).—Three tanks in *Gōdāvari Lower*, *Kurnool East* and in *Kurnool South*, were repaired and deepened. In *Kurnool West*, two public-spirited ryots were permitted to repair two tanks in forest reserves. Their example is being followed by others who have been encouraged to come forward to undertake similar repairs. In *Guntūr* and *North Cuddapah* (Central Circle) some wells were repaired. In *North Vellore* 431 bunds were constructed in one reserve at a cost of Rs. 341. In *South Salem*, similar work was entrusted to the Malayalis in the Chitteris who constructed 190 bunds at a cost of Rs. 95. Bunding work is said to have been carried out in four reserves in *Trichinopoly*, but no details of the number of bunds constructed have been furnished. In *South Arcot* six tanks in forest reserves were repaired and four put in order by private agency. No measures of this kind were considered necessary in the West Coast districts, in The *Nilgiris* and *Central Coimbātore.* Expenditure under this head was curtailed owing to financial restriction.

The Conservators of Forests are requested to furnish information in their future reports as to the amounts spent under this head in the several districts in the Presidency.

33. *Opening of small coupes in the vicinity of villages for rural supply (paragraph* 20 *of G.O. No.* 3020, *Revenue, dated* 13*th October* 1913, *on the Forest Committee's report).*—In the Northern Circle coupes in convenient localities were sold to contractors to meet the wants of the people, and in the Central Circle they were opened wherever there was a local demand. In the Southern circle sale coupes at the edge of forests were maintained by coupe contractors, while in the Western Circle no such measures were considered necessary as demand for fuel was met from the coupes sold to contractors and other sources.

34. *Patrol system (paragraph* 22 (1) of *G.O. No.* 3020, *Revenue, dated* 13*th October* 1913, *on the Forest Committee's report).*—In the Northern Circle the system was in force in all the districts, except in *Gōdāvari Upper*, where it was not introduced.

The Conservator of Forests, Northern Circle, says that the system worked on two different lines in the circle. Under the system in force in *Kurnool East* and *South*, the beats controlled by a patrol officer are clubbed together and the area to be patrolled being large the whole gang is away from headquarters for two or three days at a stretch, which renders service unpopular. The results are, however, reported to be satisfactory. Under the other system, which is in force in *Ganjām*, *Vizagapatam*, *Gōdāvari Lower* and *Kistna*, the forest guards and watchers are posted to beats, three or four of which are under a Deputy Ranger or a Forester who, when he wants a gang for any particular purpose, takes the men with him. As an example of how the system worked, it is stated that in *Ganjām* the gangs have cleared creepers over 14,000 and odd acres of *sal* forests. The system, which is in vogue in all the forest divisions in *Cuddapah*, is reported to have worked satisfactorily. In the Southern Circle the system was continued in *North Vellore*, *South Arcot*, *South Salem* and one range in *Trichinopoly*, but was not a success owing to the inadequacy of establishment. In the Western circle the system is not required in *Malabar* and in two ranges in *South Coimbatore*. It was tried in one range in *North Coimbatore* on account of systematic thefts of fuel. It was not introduced in other forest divisions as men could not be spared from their other duties.

35. *Conferences.*—A Conference was held by the Forest Commissioner with the Conservators of Forests in February 1918. Messrs. R. D. Richmond and A. A. F. Minchin, Deputy Conservators of Forests, attended the preliminary Conference of Forest Officers held at Dehra Dun in October last to consider the question of standardizing the methods of collecting forest statistical data. Mr. P. M. Lushington attended the Tanning Conference convened by the Government of India in connexion with the supply of tanning materials by the Forest department and the tannin industry generally, which was held at Dehra dun on the 14th of August 1917. The Spike Conference held at Bangalore in October 1917 was attended by Messrs. P. M. Lushington and T. N. Hearsey.

(True extract)

H. R. Pate,
Secretary.

To the Secretary to Government, Revenue (Special) Department.

Order—No. 941, Revenue (Special), dated 31st December 1918.

Forest No. 38

Recorded.

2. The outstanding feature of the work of the Forest Department during the year under review was the varied activities designed to meet the demands of the Military Department. Thousands of tons of hay were supplied, large quantities of tanning stuffs were procured for the Munitions Board at special concessions rates involving a sacrifice of three lakhs and the department was also busily engaged on helping to improve the supply of timber required for war purposes.

3. On the other hand the war checked progress in many directions. Strict economy was the rule and few works of any magnitude were undertaken. The absence of officers on military duty still further reduced a staff which has never been adequate and thus restricted attempts at new developments. Some dislocation was also caused by the demands of the Indian Defence Force. It is hoped that with the return of officers from military duty and the relaxation of the rigid financial restrictions hitherto enforced, substantial progress will become possible in the near future both under actual works and in regard to general development. In particular the Government desire to emphasize the need for a rapid improvement in communications especially in the neighbourhood of the most important timber and fuel reserves.

4. *Paragraphs* 9 *and* 10 *of the Board's Proceedings.*—The Government note the decrease in forest offences and observe with pleasure that it is mainly ascribed to the better protective measures undertaken by the department and to the increased enlistment of co-operation on the part of the villagers.

5. *Paragraphs* 15 *and* 16 *of the Board's Proceedings.*—The decrease in the number of grazing licences and the decline in the number of cattle impounded are matters for satisfaction in so far as they indicate some measure of progress towards the solution of the difficult grazing problem.

6. *Paragraph* 22.—The unusually high surplus was largely due to war conditions and cannot be expected to continue. Much deferred expenditure will have to be incurred in the next few years and the introduction of a more decided policy of development will necessarily entail greater outlay on works not immediately remunerative.

7. *Paragraph* 25 *of the Board's Proceedings.*—The Government are glad to observe that the forest panchayat system is considered on the whole to have been working satisfactorily. This branch of the administration will come under closer examination in connexion with the special annual report on the subject.

8. *Paragraph* 26 *of the Board's Proceedings.*—The Government endorse the Board's appreciation of Mr. Saunders' work among the Chentsus.

9. *Paragraph* 27 *of the Board's Proceedings.*—The Government trust that sanction will soon be received for the scheme of reorganization of the subordinate establishments and that it will shortly become possible to give at least partial effect to the sanction already accorded for the improvement of the cadre of the controlling staff. These schemes, when carried out, should go some way towards providing the department with a staff adequate to its needs.

10. *Paragraphs* 29 *and* 30 *of the Board's Proceedings.*—The Government note with satisfaction the Board's testimony to the work of the superior officers of the department and to the continued efficiency of the Forest College.

11. *Paragraph* 32 *of the Board's Proceedings.*—The attention of the Board is invited to the discussions at the meeting of the Legislative Council held on 19th November 1918 in connexion with a resolution moved by the Hon'ble Mr. B. V. Narasimha Ayyar regarding the improvement of water-supply in grazing grounds.

(True extract)

A. R. KNAPP,
Secretary to Government.

To the Board of Revenue, Land Revenue (Forests).
,, Accountant-General.
,, Government of India, Department of Revenue and Agriculture (with C.L.).
,, Inspector-General of Forests (with C.L.).
Editors' Table.

5

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